

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
EASTERN DIVISION

UNITED STATES OF AMERICA,)
)
 Plaintiff,)
)
 vs.)
)
 AMEREN MISSOURI,)
)
 Defendant.)

Case No. 4:11 CV 77 RWS

MEMORANDUM AND ORDER

Plaintiff the United States of America, acting at the request of the Administrator of the United States Environmental Protection Agency (“EPA”), filed this suit against defendant Ameren Missouri (“Ameren”) on January 12, 2011. In its complaint, EPA alleges that Ameren committed various violations of the Clean Air Act, 42 U.S.C. § 7401 *et seq.* (“CAA”), the Missouri State Implementation Plan, and Ameren’s Rush Island Plant Title V Permit, when it allegedly undertook major modifications at the Rush Island Plant in Festus, Missouri without obtaining the requisite permits.

Before me now are nine separate motions for partial summary judgment and two motions challenging expert testimony and qualifications. The motions are fully briefed and ready for review. I have carefully considered the parties arguments in their briefs and at oral argument, the evidence before me, and the relevant authorities.¹ I will address each motion in turn.

I. Background

A. Factual Allegations

¹ On November 18 and 19, 2015, I heard oral argument on all of the motions that will be addressed in this Memorandum and Order except Ameren’s Motion for Summary Judgment No. 2 and Ameren’s Motion for Summary Judgment No. 7.

EPA filed this lawsuit against Ameren asserting various violations of the Clean Air Act's Prevention of Significant Deterioration program, Title V of the CAA, the Missouri SIP, and Ameren's Title V permit for its Rush Island Plant. EPA seeks equitable and injunctive relief.

EPA makes the following factual allegations in its Third Amended Complaint.

Coal-fired electric units utilize boilers that burn coal to generate heat that converts water into steam. The steam in turn spins a generator to produce electricity. Major components of a coal-fired boiler include the superheater, economizer, reheater, lower slope tubes, and air preheater. When a major component breaks down, it causes the unit to be taken out of service for repairs (known as a "forced outage"). Forced outages prevent the unit from generating electricity. Replacing worn-out major components that cause forced outages improve the unit's availability to operate for more hours, increase capacity and/or efficiency, and cost-effectiveness of operations. As a result, when worn-out major components are replaced, increased amounts of coal might be burned and more annual pollution is emitted from the unit's smokestack.

Units 1 and 2 of the Rush Island Plant are coal-fired electric generating units that operate nearly continuously when available. EPA alleges that Ameren performed major modifications on Unit 1 from approximately February 2007 to May 2007 ("2007 Project") when it replaced the Unit's economizer, reheater, lower slope tubes, and air preheater. EPA also alleges that Ameren performed major modifications on Unit 2 from approximately January 2010 to April 2010 ("2010 Project") when it replaced the Unit's economizer, reheater, and air preheater.

EPA asserts violations of PSD requirements for both of the projects. EPA alleges that each major modification enabled and caused the affected unit to burn more coal and release greater amounts of sulfur dioxide (SO₂) by increasing the capacity of the unit to burn more coal per hour of operation, increasing the availability of the unit to operate for more hours, and/or

increasing the efficiency of the unit to operate more cost-effectively and for more hours of operation and/or at higher levels of operation. EPA alleges, for each project, that Ameren violated the PSD requirements in the CAA and the Missouri SIP because it (1) did not obtain a PSD permit for construction and operation of the modified unit; (2) did not undergo a BACT determination; (3) did not install BACT for control of SO₂ emissions; (4) failed to operate BACT for control of SO₂ emissions; (5) failed to operate in compliance with BACT emissions limitations; and (6) operated the units after undergoing an unpermitted major modification.

EPA also alleges that Ameren violated Title V of the CAA because Ameren failed to submit an accurate and complete Title V permit application and by commencing major modifications at Units 1 and 2 without obtaining a PSD permit.

B. Statutory and Regulatory Background

The factual allegations underlying this lawsuit arise out of the CAA's Prevention of Significant Deterioration ("PSD") program and the related regulations. The United States Court of Appeals for the Eighth Circuit has exhaustively examined the applicable statutory and regulatory framework.

Congress enacted the Clean Air Act Amendments of 1970 seeking to guarantee the prompt attainment and maintenance of specified air quality standards. To that end, it directed EPA to devise National Ambient Air Quality Standards (NAAQS) limiting various pollutants, which the States were obliged to implement and enforce.

A central part of the CAA's regulatory scheme was the New Source Performance Standards (NSPS) program, which required EPA to develop "technology-based performance standards" designed to limit emissions from major new sources of pollution. "New sources" include both newly constructed facilities and those that have been modified such that their emissions increase. It is unlawful for any owner or operator of any new source to operate such source in violation of applicable performance standards.

The Supreme Court has pointed out that the NSPS program did too little to achieve the ambitious goals of the 1970 amendments. Merely setting emissions

limits failed to improve air quality in those areas that had already attained the minimum standards of the NAAQS because polluters had no incentive to diminish emissions below the established limits. Congress therefore amended the CAA again in 1977 to add the “Prevention of Significant Deterioration” (PSD) program, which seeks to ensure that the “air quality floor” established by the NAAQS does not in effect become a ceiling.

Under the PSD program, no major emitting facility . . . may be constructed or modified unless it meets certain preconditions. Among the preconditions relevant here are that the facility must obtain a permit setting forth applicable emission limitations, and that it must be subject to “best available control technology” (BACT). BACT, despite what the term implies, is not a particular type of technology. Rather, it is an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for the facility in question.

The PSD program is primarily implemented by the states through “state implementation plans” (SIPs). States have broad discretion in designing their SIPs, but the plans must include certain federal standards and are subject to EPA review and approval.

Sierra Club v. Otter Tail Power Co., 615 F.3d 1008, 1011-12 (8th Cir. 2010) (internal citations and quotations omitted).

The State of Missouri’s PSD program was approved by the EPA and is part of Missouri Rule 10 C.S.R.10-6.060. 47 Fed.Reg. 26,833. The Missouri PSD program expressly adopts and incorporates by reference EPA’s PSD rules as set forth at 40 C.F.R. § 52.21. At the time of the alleged violations, the Missouri PSD program required existing sources that under a major modification to obtain a PSD permit and install BACT. 10 C.S.R. 10-6.060(8); 10 C.S.R. 10-6.060(8)(B), (C). A “Major modification” involves two criteria: (1) there must be a physical change or change in method of operation that (2) would result in a significant net emissions increase. 40 C.F.R. § 52.21(b)(2).²

While PSD is a preconstruction program, requiring covered sources to obtain a permit

² For more information of the statutory and regulatory history of the PSD program and its application to “major modifications,” see the Court’s Memorandum and Order dated January 21, 2016 [#711] entered in this case.

before performing a major modification, Title V of the CAA is an operating permit program, requiring covered sources to obtain permits for source operation. 42 U.S.C. §§ 7661 *et seq.*; 40 C.F.R. Part 70. In essence, the Title V program requires sources to obtain operating permits to ensure that they are in compliance with the CAA. As the Eighth Circuit has described:

In 1990 Congress again amended the CAA to require each covered facility to obtain a comprehensive operating permit setting forth all CAA standards applicable to that facility. These “Title V” permits do not generally impose any new emission limits, but are simply intended to incorporate into a single document all of the CAA requirements governing a facility. Similar to other CAA programs, Title V is implemented primarily by the states under EPA oversight. In states with EPA approved programs, Title V permits are issued by the state permitting authority, but are subject to EPA review and veto.

Sierra Club, 615 F.3d at 1012 (internal citations and quotations omitted). Under Title V, major sources are prohibited from operating without a Title V permit and from operating in contravention of any term or condition of a permit. 42 U.S.C. §§ 7661a(a). Missouri’s operating permit program under Title V of the CAA was approved by the EPA and is codified at 10 C.S.R. 10-6.065 and is incorporated into the Missouri SIP.

II. Summary Judgment Legal Standard

Summary judgment is appropriate if the evidence, viewed in the light most favorable to the nonmoving party, demonstrates that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. *Lynn v. Deaconess Medical Center*, 160 F.3d 484, 486 (8th Cir. 1998) (citing Fed. R. Civ. P. 56(c)). The party seeking summary judgment bears the initial responsibility of informing the court of the basis of its motion and identifying those portions of the affidavits, pleadings, depositions, answers to interrogatories, and admissions on file which it believes demonstrates the absence of a genuine issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). When such a motion is made and supported by the movant, the nonmoving party may not rest on his pleadings but must produce

sufficient evidence to support the existence of the essential elements of his case on which he bears the burden of proof. *Id.* at 324. In resisting a properly supported motion for summary judgment, the plaintiff has an affirmative burden to designate specific facts creating a triable controversy. *Crossley v. Georgia-Pacific Corp.*, 355 F.3d 1112, 1113 (8th Cir. 2004).

III. Discussion

A. Routine Maintenance, Repair, and Replacement Motions

The parties have filed cross-motions for partial summary judgment that concern the PSD program's routine maintenance, repair, and replacement exclusion ("RMRR").³ The motions present overlapping questions of law on three topics: (1) What is the legal standard for determining whether work qualifies under the RMRR exemption?, (2) Which party bears the burden of proof?, and (3) Should the challenged component replacements be considered part of one "project" for purposes of determining whether a project is RMRR, or must each replaced component be analyzed independently?

In addition to resolving these questions on the proper legal standards, EPA seeks a ruling that the projects at issue were not RMRR as a matter of law. Ameren opposes EPA's motion for a ruling that the projects did not constitute RMRR, arguing that there are genuine issues of material fact in dispute.

1. RMRR Legal Standard

As discussed above, under the CAA's PSD program, 42 U.S.C. § 7401 *et seq.*, existing sources of pollution must obtain a permit and install state-of-the-art emissions controls ("BACT") when the source makes a "major modification." *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561, 567-68 (2007). A "major modification" is defined as occurring when there is a

³ See Ameren's Motion for Summary Judgment No. 6: Correct Legal Standard for Routine Maintenance Repair and Replacement [#557]; EPA's Motion for Partial Summary Judgment on Ameren's Routine Maintenance Defense [#504].

“physical change” that would significantly increase net emissions. 40 C.F.R. § 52.21(b)(2)(iii)(a); 10 C.S.R. 10-6.060(8). The parties’ RMRR motions concern the first part of the standard – whether the projects at issue were covered “physical changes.”

It is undisputed that the projects were “physical changes” in the most general sense. Not all physical changes, however, trigger PSD permitting requirements. Routine maintenance, repair, and replacement projects are excluded from the definition of “major modification.” 40 C.F.R. § 52.21(b)(2)(iii)(a); 10 C.S.R. 10-6.060(8). As a result, if a project is found to be routine maintenance, the source is relieved of the PSD permitting requirements, and no further emissions review is necessary.

The parties have asked me to determine what the legal standard is for evaluating whether a project is routine maintenance, repair, or replacement. The basic requirements of RMRR review are well-established. To determine whether a project is RMRR, courts must weigh the four *WEPCO* factors, which include (1) the nature and extent of a project, (2) its purpose, (3) the frequency with which such projects are performed, and (4) its cost.⁴ *Wisconsin Elec. Power Co. v. Reilly*, 893 F.2d 901, 910-11 (7th Cir. 1990) (“*WEPCO*”). Within this framework, projects must be reviewed on a “case-by-case basis” “to arrive at a common-sense finding.” *Id.* at 910.

The parties raise two issues concerning the RMRR exemption in their motions. First, the parties dispute whether RMRR is a narrow exception and limited to *de minimis* circumstances. And second, the parties disagree about whether the evaluation should be based on what is routine within the coal-fired electric generating industry, or what is routine at an individual coal-fired electric generating unit.

⁴ In stating this test, the *WEPCO* Court relied on EPA’s interpretation as expressed in the Clay Memorandum, to which it accorded substantial deference under the standard in *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 104 S.Ct. 2778, 81 L.Ed.2d 694 (1984). See *WEPCO*, 893 F.2d at 910 (courts must “accord substantial deference to an agency’s interpretation of its own regulations, especially with respect to technical and complex matters”).

Deferring to EPA's interpretation, several district courts and the United States Court of Appeals for the District of Columbia have examined the scope of the RMRR exemption, the majority of which hold that the exemption is a narrow one that is generally limited to *de minimis* activities. *See, e.g., New York v. E.P.A.*, 443 F.3d 880, 885 (D.C. Cir. 2006) ("*New York II*") ("the CAA's definition of 'modification' applies to 'any physical change' which compels a narrow reading of the exemption"); *id.* at 884 ("Consistent with *Alabama Power Co. v. Costle*, which recognized EPA's discretion to exempt from NSR 'some emission increases on grounds of *de minimis* or administrative necessity,' EPA has for over two decades defined the RMRR exclusion as limited to '*de minimis* circumstances.'") (internal citations omitted); *see also U.S. v. S. Ind. Gas & Elec. Co.*, 245 F. Supp. 2d 994, 1009 (S.D. Ind. 2003) ("*SIGECO*"); *U.S. v. Ohio Edison*, 276 F. Supp. 2d 829, 855 (S.D. Ohio 2003) ("*Ohio Edison*"). I agree with the courts that have concluded that EPA's interpretation of routine maintenance is reasonable and persuasive and is therefore entitled to deference. As a result, I hold that the RMRR exemption is a narrow one and is generally limited to *de minimis* circumstances.

Several district courts have also addressed the question of whether the RMRR inquiry should be evaluated in the context of what is routine in the industry or what is routine at the individual unit. This question relates to the analysis of *WEPCO's* frequency factor. Like the courts in *United States v. Duke Energy Corp.*, No. 1:00CV1262, 2010 WL 3023517, at *7 (M.D.N.C. July 28, 2010) ("*Duke IV*"), and *Pennsylvania v. Allegheny Energy, Inc.*, 2008 WL 4960090, at *8 (W.D. Pa. Nov.18, 2008) ("*Allegheny I*"), I believe that "[c]ounterposing 'routine in the industry' and 'routine at a particular unit' actually presents a false dichotomy." *Duke IV*, 2010 WL 3023517 at *7. Indeed, the parties' positions on this issue overlap more than they acknowledge. Over the course of briefing summary judgment, both parties suggest that they

would stipulate to using the three-part frequency analysis articulated in *Duke IV, Alabama Power*, and *United States v. East Kentucky Power Coop., Inc.*, 498 F. Supp. 2d 976 (E.D. Ky. 2007) (“*EKPC*”). This three-part frequency analysis provides that “the Court will consider all of the *WEPCO* factors, including frequency, taking into consideration the work conducted at the particular [] unit, the work conducted by others in the industry, and the work conducted at other individual units within the industry.” *Duke IV*, 2010 WL 3023517 at *7 (quoting *EKPC*, 498 F. Supp. 2d at 993-94). As the parties appear to stipulate to using at least this portion of the frequency analysis, and because I am persuaded that this three-part inquiry is consistent with *WEPCO* and the PSD requirements, I will adopt this as part of the standard.

EPA asks me to go one step further and reiterate the significance of examining frequency at a typical unit over sheer numbers of replacements. As the court in *United States v. Louisiana Generating, LLC*, No. CIV.A. 09-100-JJB-CN, 2012 WL 4107129 (M.D. La. Sept. 19, 2012) (“*LaGen*”), stated, “just because other places may be replacing primary reheaters does not make it routine. However, if it were to turn out that similar units tend to replace their primary reheaters multiple times during a unit’s lifetime, that would argue that such a project is routine, regardless of whether the units in question had this work performed before or not.” *Id.* at *5. I agree with EPA, *LaGen*, and the majority of the other district courts to address this question. In evaluating frequency, the most relevant inquiry is how *often* similar projects have been undertaken at particular units in the industry, not how *many* similar projects have been implemented industry wide. *See, e.g., LaGen*, 2012 WL 4107129 at *7; *Ohio Edison*, 276 F. Supp. 2d at 855-56; *SIGECO*, 245 F. Supp. 2d at 1009; *Duke IV*, 2010 WL 3023517 at *7.

In sum, I find that the RMRR exclusion is a narrow exception that generally only applies to *de minimis* activities. To determine whether the RMRR exemption applies, the court will

examine the projects on a case-by-case basis to determine if a project qualifies as routine maintenance, repair, and replacement, taking into account the 1) nature and extent, 2) purpose, 3) frequency, and 4) cost of the activity to arrive at a common-sense finding. Frequency will be evaluated by considering the work conducted at the particular unit, work conducted by others in the industry, and work conducted at other individual units within the industry. In evaluating frequency, the most relevant inquiry is how often similar projects have been undertaken at particular units in the industry, not how many similar projects have been implemented industry wide.

2. Burden

Ameren argues that EPA bears the burden of proving that the projects at issue were not RMRR activities. Generally, the party seeking to benefit from an exception carries the burden of proving that the exception applies. *United States v. First City Nat'l Bank of Houston*, 386 U.S. 361, 366, 87 S.Ct. 1088, 18 L.Ed.2d 151 (1967). All of the federal courts to consider this question have applied this general rule to the RMRR context to hold that the burden of proving applicability of the RMRR exception is that of the party claiming its benefit. *See, e.g., Duke IV*, 2010 WL 3023517 at *7-8; *EKPC*, 498 F. Supp. 2d at 994-95; *LaGen*, 2012 WL 4107129 at *4; *Ohio Edison*, 276 F. Supp. 2d at 856. Ameren has not provided any support to the contrary, nor has it persuasively argued why the general rule should not apply here. As a result, while EPA must demonstrate that it is entitled to summary judgment to prevail in its motion, Ameren ultimately bears the burden of proving that the RMRR applies to the projects at issue.

3. Aggregation

The parties dispute what appears to be an issue of first impression: how to define what constitutes a “project” for purposes of applying the RMRR exclusion? Ameren defines “project”

narrowly, while EPA defines it more broadly. Specifically, Ameren argues that the four major major components that were replaced at Unit 1 in 2007 (the economizer, the reheater, the water wall boiler tube components, and the air preheater baskets and rotors) and the three major components that were replaced at Unit 2 in 2010 (the economizer, the reheater boiler tube components, and the air preheater baskets and rotors) should each be analyzed separately as seven distinct “projects” for RMRR purposes. EPA opposes this strategy, arguing that the replacements of the four components at Unit 1 were part of one project, and the replacements of the three components at Unit 2 were part of another project.

Ameren contends that the equipment replacements at each unit should not be aggregated together and reviewed as though they were each one project because (1) EPA has no policy on aggregating work or equipment replacements into projects, and the lack of such a policy is telling because EPA does have an aggregation policy that applies to aggregating emissions calculations, (2) language used in EPA’s 1992 guidance on RMRR supports a component-based review argument, which states that “the determination of whether the replacement of a *particular item of equipment* is ‘routine’ under the NSR regulations, while made on a case-by-case basis, must be based on the evaluation of whether *that type of equipment* has been repaired or replaced by sources within the relevant industrial category,” 57 Fed. Reg. 32,314, 32,326 (July 1, 1992) (emphasis added), and (3) the *Allegheny III*⁵ and *TVA II*⁶ courts used the component-based approach for which Ameren advocates in similar circumstances to those here.⁷ Ameren also

⁵ *Commonwealth of Pennsylvania et al. v. Allegheny Energy, Inc.*, No. 05-855, 2014 WL 494574 at *8-9, *12-16 (W.D. Pa. Feb. 6, 2014) (“*Allegheny III*”).

⁶ *National Parks Conservation Association v. TVA*, No. 3:01-cv-71, 2010 WL 1291335 at *17-22 (E.D. Tenn. Mar 31, 2010) (“*TVA II*”).

⁷ In *Allegheny III*, the court evaluated lower slope and superheater replacement projects that were performed during the same outage separately. *Allegheny III*, 2014 WL 494574 at *8-9, *12-16. In *TVA II*, the court evaluated economizer and superheater replacement projects that were performed during the same outage separately. *See TVA II*, 2010 WL 1291335 at *17-18. Although the court did not explain why it treated these projects separately, or even if plaintiffs had opposed that strategy, the court did note earlier in its analysis that the two projects were not

argues that the fact that the separate equipment replacements were done during the same outage does not support a finding that the replacements were part of one project because it is common for a power plant to perform multiple unrelated repairs during one outage because it is much more efficient and cost-effective that way.⁸

EPA acknowledges that its emissions aggregation policy does not apply to the determination of whether a physical or operational change has occurred in the first place or to “aggregating projects themselves.” It argues, however, that the fact that the emissions aggregation policy does not apply to aggregating work into a project or multiple projects together is irrelevant to whether there is a policy or reason to review related work together as one project for RMRR purposes.

Next, EPA addresses Ameren’s argument that language used in the preamble to the 1992 Rules supports Ameren’s component-based review argument because it states that “the determination of whether the replacement of a *particular item of equipment* is ‘routine’ under the NSR regulations, while made on a case-by-case basis, must be based on the evaluation of whether *that type of equipment* has been repaired or replaced by sources within the relevant industrial category,” 57 Fed. Reg. 32,314, 32,326 (July 1, 1992) (emphasis added). While Ameren interprets this language as requiring RMRR review to be made separately for each piece of equipment, EPA contends that this language merely limits the RMRR analysis to equipment replacements in the relevant industrial category. Under this view, for example, Ameren’s reheater replacement should only be compared to other reheater replacements by power plants, and not reheater replacements done in other industries, such as the cement or glass industry.

technically or economically dependent on the other. *Id.* at *15.

⁸ Ameren states that in the early 2000s, it increased the increments of its planned outages for making repairs so that they would occur once every six years. Because of the increase in intervals between planned outages, the work Ameren planned for the 2007 outage was larger in scope than usual and encompassed preventative maintenance that otherwise might have been scheduled for a later date.

EPA further contends that, while it does not have a written policy in the PSD rules for how to define the scope of a “project” for the RMRR analysis, a string of RMRR determinations have made clear that challenged work should be viewed “as a whole.” EPA cites its determination letters in *Cyprus Casa Grande* (1987),⁹ EPA’s Final Revised *WEPCO* Determination (1989),¹⁰ the 2000 *DTE Applicability Determination* (summarizing the extent factor as being assessed in part on “[w]hether the collection of activities, taken as a whole, constitutes a non-routine effort, notwithstanding that individual elements could be routine”),¹¹ and an EPA Administrator permit decision regarding the Monroe Electric Generating Plant (1999)¹². EPA also points to decisions in *Cinergy*, 495 F. Supp. 2d 909, 916-918 (S.D. Ind. 2007), *Ohio Edison*, 276 F. Supp. 2d 829, 856-58 (2003), and *WEPCO*, 893 F.2d at 907-09, which have grouped certain activities together when making RMRR determinations.¹³

Finally, EPA argues that the facts of this case support a finding that, under the *WEPCO* common sense, case-by-case mandate, the challenged component replacements at each unit each constitute one project because all of the challenged work at each unit was planned for together, budgeted together, performed together, and undertaken for the same purpose.

The lack of an express rule on how to determine what constitutes a “project” for RMRR purposes does not persuade me that RMRR must be analyzed on a component-by-component basis, as Ameren suggests. Likewise, while both parties have identified cases that support their views, with some cases reviewing component replacements separately for RMRR purposes, and

⁹ See [#505-7] Ex. F at 6.

¹⁰ See [#505-4] Ex. C at 7.

¹¹ See [#505-5] Ex. D at 10.

¹² See *In re Monroe Elec. Generating Plant*, Petition No. 6-99-2 (Order on Petition) (June 11, 1999).

¹³ See *Cinergy*, 495 F.Supp.2d 909, 916-918 (S.D. Ind. 2007) (reviewing work consisting of numerous component replacements as part of one project, e.g., reviewing 49 component replacements at Beckford Unit 3 together; 57 component replacements at Beckford Unit 2 together; and 59 component replacements at Beckford Unit 1 together); *Ohio Edison*, 276 F.Supp.2d 829, 856-58 (2003) (reviewing all related work as done at a particular unit during a particular outage as one project).

others considering related component replacements together, because the courts did not explain why the projects were grouped or not (probably because the issue was uncontested), the case law is not particularly persuasive one way or the other.

I must also reject Ameren's argument that EPA's choice of language focused on "a particular item of equipment" used in its 1992 guidance means that a component-based review is required. *See* 57 Fed. Reg. 32,314, 32,326 (July 1, 1992). I agree with EPA's interpretation that the language is meant to restrict comparisons to those made within an industry, and not allow inter-industry comparisons. Not only does EPA's interpretation make more sense, Ameren's interpretation would not resolve the question either. The term "equipment" contains ambiguities similar to "project" because it could also be defined narrowly or broadly. Moreover, even if I did agree with Ameren's interpretation, this limited preamble language alone does not carry enough weight to control the analysis.

Most persuasive to me is EPA's interpretation of the exclusion, which, based on the determination letters EPA cites, indicates that EPA has consistently interpreted the RMRR exclusion as requiring review based on the "principle that a non-routine collection of activities, considered 'as a whole,' is not exempt under routine exclusion, even if individual activities could be characterized as routine." 2000 *DTE Applicability Determination Detailed Analysis* at 10 (citing *In re Monroe Elec. Generating Plant*, Petition No. 6-99-2 (Order on Petition) (June 11, 1999));¹⁴ *see also* EPA's *Final Revised WEPCo Determination* at 7 (1989) ("WEPCO cannot evade PSD and NSPS applicability by carving out, and seeking separate treatment of, significant portions of an otherwise integrated renovation program. Such piecemeal actions, if allowed to go

¹⁴ EPA has addressed this question under its analysis of the *WEPCO* "extent" factor. *See* 2000 *DTE Applicability Determination Detailed Analysis* at 10 (listing "Whether the collection of activities, taken as a whole, constitutes a non-routine effort, notwithstanding that individual elements could be routine" as one of the factors EPA has considered under the "Extent" portion of the RMRR analysis).

unchallenged, could readily eviscerate the clear intent of the Clean Air Act's new source provisions.”).¹⁵ Moreover, EPA’s interpretation of the RMRR exclusion as requiring that related work be viewed as a whole is consistent with its interpretation that the exclusion is a narrow one, with Congress’ intent that the PSD program have broad application to “any physical change,” and with the *WEPCO* analysis as a whole, which requires that RMRR determinations be made after considering all relevant factors, on a case-by-case basis, to produce a common-sense finding. *WEPCO*, 893 F.2d at 910.

For all of these reasons, I find that separate equipment or component replacements should be taken as a whole, i.e., multiple component replacements may constitute one “project,” for purposes of the RMRR analysis, if, consistent with the *WEPCO* four-factor analysis and the requirements that the review be made on a case-by-case basis to arrive at a common sense determination, it appears that the work was done as part of one project. Under this common sense framework, I agree with EPA that whether the challenged work was planned for together, budgeted together, performed together, and undertaken for the same purpose are relevant to the inquiry.

4. Summary Judgment Analysis

The question of whether the changes were “routine” within the meaning of the RMRR exemption is a question of law for the court to decide. As a result, while the inquiry is fact-sensitive, if there is no genuine dispute of material fact, resolution may be appropriate at summary judgment. *See, e.g., Cinergy* 495 F. Supp. 2d at 931 (S.D. Ind. 2007); *Sierra Club v. Morgan*, No. 07-C-251-S, 2007 WL 3287850 (W.D. Wis. Nov. 7, 2007).

¹⁵ Ameren attempts to distinguish these determination letters from this case because the projects at issue in Cypress Casa Grande, Monroe, and WEPCO involved facilities that had been shut down and required extensive work to re-start the plants’ operations. EPA’s application of the facts to those cases, however, does not affect the underlying principles upon which the determinations were made, or whether EPA’s position on how to group activities into one project has been consistent, which *is* relevant here.

EPA argues that it is entitled to summary judgment that the projects do not qualify as routine maintenance, repair and replacement, whether viewed as seven or two distinct projects. Ameren contends that each component replacement should be viewed as its own project, and that even if the component replacements are found to be part of two, rather than seven, projects, partial summary judgment is inappropriate because the RMRR analysis is fact-sensitive and there are genuine issues of material fact in dispute.

After carefully reviewing the record and the parties' arguments, and in light of the fact-intensive, multi-factor, case-by-case analysis required for an RMRR determination, I conclude that summary judgment is not appropriate at this time. While EPA has pointed to several compelling pieces of evidence to support its argument that the projects were not RMRR, there are still genuine issues of material fact in dispute. Keeping in mind that I must take the disputed facts in the light most favorable to Ameren, I cannot say that no reasonable factfinder could find for Ameren. The parties dispute, for example, the frequency with which similar projects are performed across the industry, and even within that question, what counts as a "similar project." *Compare* EPA's SOF ¶¶ 164-172 [#506], *with* Ameren's Responses to EPA's SOF ¶¶ 164-172 [#611]. They also dispute the meaning and significance of certain pieces evidence, such as whether the replaced components were "redesigned," the significance of Ameren's use of heavy equipment and large cranes, the significance of using mostly contractors to complete the projects, the purpose of the projects, and whether the projects were expected to increase unit capacity and availability. *Compare* Golden Report at 68, 71-72, 98, 106, 142, 148; Boll Decl. ¶¶ 6-12, 18; Meiners Decl. ¶¶ 4-12, *with* EPA's SOF ¶¶ 76, 82-127.

Moreover, the issue of whether the component replacements should be defined as two or seven projects for purposes of the RMRR analysis is also a very fact-intensive inquiry that would

be best decided after a full presentation of the evidence. And because defining the scope of the challenged “projects” is a threshold issue to the ultimate RMRR question, summary judgment on the RMRR question is also inappropriate for this reason. As a result, these issues will be decided at trial by weighing all of the *WEPCO* factors and any other relevant evidence, and I will deny summary judgment on this topic.

B. Causation and the Demand Growth Exclusion Motions

The parties have filed cross-motions for summary judgment regarding the PSD program’s demand growth exclusion.¹⁶ As discussed above, there are two main criteria that determine whether a major source of pollution must obtain a PSD permit. First, there must be a physical change, and second, that change would be expected to cause a significant net increase in actual emissions. 40 C.F.R. § 52.21(b)(2)(i). These motions concern the second part of the analysis: how to determine whether the physical changes would have caused a significant net emissions increase, and if so, whether any of the increased emissions may be excluded from review under the “demand growth exclusion.” Both parties also seek a ruling on whose burden it is to establish that the demand growth exclusion applies. In addition, EPA’s motion seeks a partial summary judgment ruling that Ameren has failed as a matter of law to establish that the demand growth exclusion applies.

1. The Demand Growth Exclusion Legal Standard

As the D.C. Circuit has described, the causation portion of the PSD analysis and the demand growth exclusion functions as follows:

Under the 2002 rule, in order to calculate whether a change will result in a significant emissions increase, sources other than utilities compare their baseline emissions (determined using the ten-year lookback period) to expected post-change emissions. The post-change emissions calculation excludes any emissions

¹⁶ See Ameren’s Motion for Summary Judgment No. 5: Correct Legal Standard for Determining Causation [#552]; EPA’s Motion for Partial Summary Judgment on Ameren’s Demand Growth Defense [#511].

increases that “an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions . . . and that are also unrelated to the particular project, including any increased utilization due to product demand growth.” 67 Fed.Reg. at 80,277 (codified at 40 C.F.R. § 52.21(b)(41)(ii)(c)).

New York v. U.S. E.P.A., 413 F.3d 3, 31 (D.C. Cir. 2005) (“*New York I*”).

The parties dispute how to interpret the language of the demand growth exclusion. Ameren argues that, “[c]onsistent with the longstanding interpretation and application of the Demand Growth Provision by EPA’s permitting arm, when determining causation, if a unit had available but unused production capacity during the baseline period before a project, emissions associated with the use of such available capacity after the project are unrelated to the project.” [#552] at 2. In essence, Ameren argues that “unrelated” means any emissions increases a unit could have accommodated at baseline. EPA argues that such an interpretation impermissibly collapses the two prongs of the demand growth exclusion into one, and makes the entire second prong (“and that are also unrelated to the particular project, including any increased utilization due to product demand growth”) superfluous.

I agree with EPA. The D.C. Circuit addressed an argument similar to Ameren’s in *New York I*. There, environmental petitioners challenged the validity of the demand growth exclusion, arguing that the rule impermissibly created a per se exclusion for demand growth because it “excludes ‘any increased utilization due to product demand growth,’ even if unrelated to the change.” *New York I*, 413 F.3d at 33. The court rejected that interpretation, stating:

Petitioners misread the 2002 rule. The implementing regulations plainly allow exclusion of emissions that could have been accommodated during the baseline period and “that are also unrelated to the particular project.” This latter category “includ[es] any increased utilization due to product demand growth.” Thus, the regulation establishes two criteria a source must meet before excluding emissions from its projection: “(1) [t]he unit could have achieved the necessary level of utilization during the consecutive 24-month period [the source] selected to establish the baseline actual emissions; and (2) the increase is not related to the

physical or operational change(s) made to the unit.” As EPA further explained:

[E]ven if the operation of an emissions unit to meet a particular level of demand could have been accomplished during the representative baseline period, but it can be shown that the increase is related to the changes made to the unit, then the emissions increases resulting from the increased operation must be attributed to the modification project, and cannot be subtracted from the projection of post-change actual emissions.

Id. at 33 (internal citations omitted).

The D.C. Circuit’s interpretation of the 2002 rule is consistent with EPA’s interpretation since 1992, when it first promulgated the demand growth exclusion. Then, EPA explained:

EPA recognized that the analysis of the causation requirement may disclose that an emissions increase that follows a nonroutine physical or operational change is merely coincidental, and in fact results from independent factors such as demand growth. It is important to emphasize, however, that this does not amount to a *per se* exclusion of demand growth from the emissions increase calculation. Rather, demand growth can only be excluded to the extent it—and not the physical or operational change—is the cause of the emissions increase.

57 Fed. Reg. at 32,327.

The D.C. Circuit’s interpretation of the rule is also supported by the plain language of the regulation, which expressly states that the exclusion applies when the unit “could have accommodated” the emissions pre-project, “*and*” the increase is unrelated to the changes. 40 C.F.R. § 52.21(b)(41)(ii)(c) (emphasis added). Adopting Ameren’s interpretation would make the use of the word “and” meaningless, and would render the entire second prong’s “unrelated” analysis superfluous. Such a reading would be contrary to the principles of statutory interpretation. *See, e.g., Solis v. Summit Contractors, Inc.*, 558 F.3d 815, 823 (8th Cir. 2009) (“The Court will avoid an interpretation of a [regulation] that renders some words altogether redundant We also should ‘avoid a [regulatory] construction that would render another part of the same [regulation] superfluous.’”) (internal citations omitted). EPA’s interpretation also

makes sense in the context of Congress' intent that the PSD rules have broad application. See *Alabama Power*, 636 F.2d at 379, 399-400 (D.C. Cir. 1979).

The difference between the two prongs of the demand growth exclusion – and in particular how to determine if emissions increases are “related” to a project – can perhaps be best understood by looking at different fact scenarios. If Ameren ran its units more often after the projects just because demand grew, for example, then we can easily say that any increased emissions were unrelated to the projects. Likewise, if emissions increased because of changes in weather patterns or in the type of coal being used, those increased emissions would probably not be related to the projects. However, if emissions increase because a project enables the unit to meet previously unmet demand during peak hours, for example, those emissions increases are likely related to the project and therefore do not qualify for the demand growth exemption.¹⁷ It is not hard to imagine such a scenario. A typical power plant will run at near-full capacity during daytime (peak) hours, when demand is high, but ramp down overnight, when demand is low. Because the unit is not running at full capacity overnight, it has some available unused capacity – which affects the “could have accommodated” part of the demand growth analysis. As long as increased emissions post-project do not exceed what the unit could have accommodated if it ran at full capacity 24/7, it is safe to say the first prong of the analysis is met. But if the unit

¹⁷ EPA analogizes this scenario to that of a popular restaurant. A popular restaurant might be packed during lunch and dinner hours, operating at full capacity, with all of its tables full. But in the off-peak dining times, say around 3 p.m., very few of its tables will be full and the restaurant operates at much less than full capacity. Let's assume that the restaurant, if it had full tables all day every day, including during non-peak hours, could serve 100 customers each day. But in reality the restaurant only serves 85 customers per day because of the less-utilized off-peak hours. If the restaurant makes renovations that allow it to serve more customers during the peak hours, and starts serving 95 customers each day, we have to ask why they are serving the additional customers. Is it just a coincidence and more people suddenly started coming in the off-peak hours when unused capacity was always available? Or are those 10 new customers being served during peak hours only because the renovations allowed the restaurant to serve them? In the former example, the additional customers are being served for reasons unrelated to the renovations and they would likely be excluded under the demand growth exemption; but in the latter example, the additional service is related to the modifications and would not be exempted. As counsel for EPA phrased it, “the question is did they have that capacity when it mattered, when people want to eat, when they want to come into the restaurant and sit down; or were they booked up?” Summ, J. Tr. [#707] at 118, lns. 8-11.

undergoes modifications that allow it to run more during the daytime hours that it could before, it cannot be said that the increased emissions were merely a coincidence or unrelated to the modification.

Ameren cites to EPA guidance published in the Federal Register as well as several EPA training examples to support its argument that EPA's permitting arm, as opposed to the enforcement arm, interprets "unrelated" to mean any emissions that could have been accommodated pre-project. However, Ameren misconstrues the meaning of these texts. A close reading of those examples only confirms that EPA has consistently and properly interpreted the exclusion as requiring a showing of both distinct prongs.

For all of these reasons, I conclude that the demand growth exclusion requires a showing that the unit "could have accommodated" the emissions at baseline *and* that those increases were unrelated to the project. The two prongs are distinct. Satisfying the "could have accommodated" prong is necessary but not sufficient to justify application of the exclusion, and emissions that "could have been accommodated" at baseline are not per se "unrelated."

2. Burden

The parties also disagree about whose burden it is to establish that any increases in emissions were caused by demand growth. Ameren argues that it is EPA's burden because under the definition of "projected actual emissions," the regulations require that unrelated emissions be exempted from the calculation. EPA argues that the burden is Ameren's because, much like the RMRR exclusion, it is the burden of the party seeking to benefit from an exemption that bears the burden of proof.

As stated above, generally, the party seeking to benefit from an exception carries the burden of proving that the exception applies. *United States v. First City Nat'l Bank of Houston*,

386 U.S. 361, 366, 87 S.Ct. 1088, 18 L.Ed.2d 151 (1967). While Ameren argues that the fact that the exclusion of demand growth emissions is required by the regulatory language makes it EPA's burden to prove, that reasoning would apply equally to RMRR, which is also a mandatory exclusion. However, as discussed above, this rule has consistently been applied in the RMRR context to hold that it is the defendant's burden. *See supra* section III. A. 2. Ameren has not persuaded me that the rule should be applied differently in the demand growth context. Additionally, the only other court to address this question found that it was the defendant's burden to prove that the demand growth exclusion applies. *See United States v. Cinergy Corp.*, 1:99-cv-01693-LJM-JMS (S.D. Ind.), Final Jury Instructions, Dkt. 1335, May 21, 2008 ("The burden is on Defendants to prove by a preponderance of the evidence that the demand growth exclusion applies to an emissions increase.").

As a result, I conclude that, while it remains EPA's burden to prove that Ameren should have expected the projects to cause an increase in emissions, the burden is Ameren's to prove that the demand growth exclusion applies.

3. Sufficiency of the Evidence

EPA argues that Ameren has failed to meet its burden of production and cannot prove as a matter of law that any increases in emissions were caused solely by demand growth. As a result, EPA asks me to grant partial summary judgment on the demand growth exclusion.

The party seeking summary judgment bears the initial responsibility of informing the court of the basis of its motion and identifying those portions of the affidavits, pleadings, depositions, answers to interrogatories, and admissions on file which it believes demonstrates the absence of a genuine issue of material fact. *Celotex Corp. v. Catrett*, 477 U.S. 317, 323 (1986). However, where, as here, the non-moving bears the burden of proof on a particular issue, "the

burden on the moving party may be discharged by ‘showing’—that is, pointing out to the district court—that there is an absence of evidence to support the nonmoving party's case.” *Id.* at 325.

EPA argues that it is entitled to summary judgment because there is an absence of evidence to support Ameren’s demand growth defense. EPA contends that Ameren and its experts have been operating under a flawed construction of the law which impermissibly collapses the two prongs of the analysis into one, and because of this they have not addressed the second prong regarding the “relatedness” of any increased emissions at all. EPA contends that Ameren has not produced any evidence on whether and how much demand grew following the project, nor has it produced evidence that such demand was the sole cause of any increased emissions. According to EPA, the only evidence Ameren has produced to show that demand for electricity grew is its response to an interrogatory which stated that “during the period of 1996 to 2011, the American economy, and its corresponding demand for electricity, grew nearly every year.” Response to U.S. Interrogatory No. 28 (Ex. 1) at 74 [#515-3]. In contrast to this conclusory and unsupported statement, EPA contends that its evidence belies Ameren’s assertion that all production can be blamed on demand alone, and EPA contends that Ameren’s own modeling efforts show that Ameren expected performance improvements at both Rush Island units following the overhauls. EPA’s SOF ¶ 22 [#515-1].

When a *Celotex* motion is made and supported by the movant, the nonmoving party may not rest on his pleadings but must produce sufficient evidence to support the existence of the essential elements of his case on which he bears the burden of proof. *Celotex Corp. v. Catrett*, 477 U.S. at 324. In resisting a properly supported motion for summary judgment, the plaintiff has an affirmative burden to designate specific facts creating a triable controversy. *Crossley v. Georgia-Pacific Corp.*, 355 F.3d 1112, 1113 (8th Cir. 2004). In resisting summary judgment

here, Ameren states that it has provided “volumes of evidence showing no causation.” *See* [#605] at 17. It then cites the following causation evidence purportedly showing that the projects neither caused an emissions increase nor were reasonably expected to cause any increase:

- Ameren’s pre-project emissions assessments: no increase. (ECF # 545 at 15-16.)
- Proactive and thorough plant maintenance meant the Rush Island units had high availability levels (>700 full-power hours of available but unused capacity), pre-Project. Post-Project production increases weren’t expected to be, and weren’t, “enabled by” (EPA’s claim) or related to the Projects. (ECF # 555 at 9.)
- The Projects neither increased the size of the units nor were the types of projects that affect SO₂ emissions. (ECF # 545 at 15-16.)
- The Projects weren’t expected to increase availability or maximum capacity and didn’t. (*See* Response to EPA’s Unit 2 motion, filed contemporaneously.)
- Even if a replaced individual component’s availability might improve, other offsetting events affect overall unit availability, so availability was not expected or projected to increase as a result of the Projects. (*See* Response EPA’s in limine motion concerning Shepard, III, filed contemporaneously.)
- Many independent factors affect whether, when, and how much a unit emits SO₂, including the amount of sulfur and energy in the coal burned, the weather, the economy, ambient conditions, and the combined performance and interaction of the unit’s thousands of components and systems. (ECF # 555 at 1.)
- Ameren’s experts have disclosed opinions, and will testify, that the Projects should not have been expected to, and did not, cause SO₂ emissions increases.
- EPA and its experts have not calculated the amount of emissions that must be excluded under the Demand Growth Provision; and
- Any “increase” in SO₂ emissions, however measured, occurring after any of the Projects was caused by factors other than the Project, including increases in market demand for electricity, unrelated changes in unit operations, and other economic factors unrelated to the Project.

[#605] at 17-18.

It is troubling that Ameren calls this “evidence” because the only citations it provides are to other briefs. Additionally, I agree with EPA that Ameren has failed to set forth any evidence of an increase in demand growth. However, Ameren’s demand growth defense does not rest solely on proving demand increased, and a review of the record as a whole demonstrates that there are some genuine issues of material fact in dispute, especially when I must view the facts relevant to this issue in the light most favorable to Ameren. For example, Ameren argues that

any increases in emissions after the challenged projects were due to the effects of other work that was done on the turbines, an unchallenged portion of the work done, and its experts have opined that emissions did not and were not expected to increase during the relevant time. *See* Expert Reports and Opinions of Sandra Ringelstetter Ennis, Cliff Hamal, Marc Chupka, and Michael King.¹⁸ When parties rely on battling experts to establish material facts, the facts are not “undisputed” as required to grant summary judgment under Rule 56 of the Federal Rules of Civil Procedure. *Scallon v. U.S. Ag Center, Inc.*, 42 F. Supp. 2d 867, 870 (N.D. Iowa 1999). As a result, to the extent EPA seeks summary judgment on the application of the demand growth exclusion, the motion will be denied.

C. Ameren’s Motion for Summary Judgment No. 2: Concerning NSR

Applicability

1. Expectations Theory

Ameren’s Motion for Summary Judgment No. 2: Concerning NSR Applicability, presents two issues. First, Ameren asks whether, because EPA brought suit *after* the challenged projects’ completion, the NSR applicability provision allows EPA to establish liability under both an “expectations” theory (one based on its contention that Ameren “should have expected” the Projects to increase emissions), and an “actual increase” theory (one based on its contention that the Projects actually caused emissions to increase) – or is EPA limited to an “actual increase” theory? Ameren argues that EPA is limited to an “actual increase” theory. Second, Ameren argues that even if I conclude that EPA may proceed under an expectations theory, I should find

¹⁸ I note that EPA has moved to exclude certain of Ameren’s expert Sandra Ringelstetter Ennis’ opinions on demand growth because she largely analyzes demand growth under Ameren’s same interpretation of the exclusion that I find to be improper because it impermissibly collapses the two prongs into one. This motion will be addressed below. *See infra*, Section H.3. Although I agree with EPA on the demand growth legal standard and will not allow any experts to testify in contravention of this or any other legal standard, for reasons stated below, I will deny EPA’s motion to exclude Ms. Ringelstetter Ennis’ opinion at this time and will take her testimony for what it is worth at trial.

that any liability premised on an expectations theory is unavailable as a matter of law for the 2010 Project at Unit 2 because Ameren made emissions projections pre-project, and those projections did not show that emissions would increase.

EPA opposes the motion, arguing that it is entitled to seek relief under an expectations theory as well as an actual increase theory, and that it is entitled to review the validity and reasonableness of any projections Ameren made. EPA also argues that the evidence shows that Ameren should have expected and did expect an increase in actual emissions following the 2010 project.

For the reasons that follow, I will deny Ameren's motion because I find that EPA can proceed under an expectations theory. Under such a theory, EPA is entitled to review Ameren's projections to ensure that they comply with the CAA and PSD Rules. I also find that genuine issues of material fact exist regarding whether Ameren's projections were reasonable and whether Ameren should have expected emissions to increase, and will deny summary judgment on that basis.

1. Expectations Theory

The PSD program is a prospective program designed to prevent significant increases in pollution. In addition to the operative word "prevention" in the title of the "Prevention of Significant Deterioration" program, the PSD rules establish the prospective nature of the program in the language used to define "major modification." Under the PSD rules, a source undertakes a major modification if it makes a physical change to the facility that *would* result in a significant emissions increase and a significant net emissions increase. 40 C.F.R. § 52.21(b)(2)(1) (emphasis added). If a source undertakes a major modification without obtaining a PSD permit in advance, it is subject to enforcement. 40 C.F.R. § 52.21(r)(1); 45 Fed. Reg.

52,676, 52,725 (Aug. 7, 1980) (“Any source which improperly avoids review and commences construction will be considered in violation . . . and will be retroactively reviewed under the applicable NSR regulation.”).

As the United States Supreme Court has held, the CAA requires that determinations about whether a project is a “major modification” be calculated by measuring actual emissions, and the PSD rules mandate the use of an actual-to-projected actual test. *See Environmental Defense et al. v. Duke Energy Corp.*, 549 U.S. 561, 577-78 (2007) (“*Duke Energy*”). The use of the actual-to-projected-actual test underscores the prospective nature of the CAA because it requires sources of pollution to project what their emissions will be after the project and compare those to the baseline period to determine whether a PSD permit is required.

In a series of PSD cases, courts have held that for the EPA to satisfy its burden under the CAA, it must “show that at the time of the projects [defendant] expected, or should have expected, that its modifications would result in a ‘significant net emissions increase.’” *Ala. Power*, 730 F.3d 1278, 1282 (11th Cir. 2013); *see also Cinergy Corp.*, 623 F.3d at 459 (7th Cir. 2010) (noting that the standard is whether “the modifications made would result in an increase in actual emissions . . . ‘Would,’ not ‘did,’ because the permit must be obtained before the modification is made, and so the effect on emissions is a prediction rather than an observation”); *Ohio Edison*, 276 F.Supp.2d 829, 865 (S.D. Ohio 2003) (“the determination of whether a given project will cause a significant net pollution increase requires a pre-construction determination as to the additional pollutants projected to be emitted as a result of the proposed physical change”); *United States v. Duke Energy Corp.*, 5 F. Supp. 3d 771, 782 n.6 (M.D.N.C. 2014) (“*Duke V*”) (“the question is not whether Duke's plants actually had increased emissions after restart, but whether Duke should have expected its plants to have increased emissions after restart”).

Ameren acknowledges that courts have applied the “should have expected” standard (what Ameren calls an “expectations theory”) in several cases. Ameren argues, however, that the 2002 amendments to the PSD program (the “2002 Reform Rules”) eliminated EPA’s ability to prove post-construction liability under the expectations theory.¹⁹

The 2002 Reform Rules amended the PSD rules and set forth a “new ‘applicability roadmap’” for determining whether a project was a major modification, which is set out at 40 C.F.R. § 52.21(a)(2). *See also* 67 Fed. Reg. at 80,190. In addition, the 2002 Reform Rules limited the circumstances under which a source must make and report an emissions projection. Under the 2002 Reform Rules, sources are only required to make and report emissions projections when there is a reasonable possibility that the project may result in a significant emissions increase. 67 Fed. Reg. at 80,192. Additionally, the 2002 Reform Rules implemented the requirement that when sources projected emissions increases of less than the PSD “significant” threshold, they would have to track emissions and submit their emissions data to their reviewing authority for at least five years after completion. *Id.*

As relevant here, the “new applicability roadmap” provides:

40 C.F.R. § 52.21(a)(2)(iv)(a): Except as otherwise provided in paragraphs (a)(2)(v) and (vi) of this section, and consistent with the definition of major modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases--a significant emissions increase (as defined in paragraph (b)(40) of this section), and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major

¹⁹ Ameren also argues that the cases EPA relies on are irrelevant because they each rely, either directly or indirectly, on the order from EPA’s Environmental Appeals Board in *In re Tennessee Valley Authority*, 9 E.A.D. 357, 2000 WL 1358648 (EAB Sept. 15, 2000), which the Eleventh Circuit declared a nullity on due process grounds. This argument fails because each of the courts ruled based on the language of the statute, and did not simply follow the appeals board decision; some of the cases do not even mention the appeals board decision; and the Eleventh Circuit vacated the appeals board decision on procedural grounds and did not call into question the validity of the court’s substantive arguments. *See Tenn. Valley Auth. v. Whitman*, 336 F.3d 1236, 1239 (11th Cir. 2003). Indeed,

modification only if it also results in a significant net emissions increase.

40 C.F.R. § 52.21(a)(2)(iv)(b): The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs (a)(2)(iv)(c) through (f) of this section. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition in paragraph (b)(3) of this section. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

Ameren selects snippets of these provisions to argue that the 2002 Reform Rules limit EPA's ability to prove its case based on an expectations theory. Ameren first focuses on the sentence "The project is not a major modification if it does not cause a significant emissions increase." 40 C.F.R. § 52.21(a)(2)(iv)(a). Ameren argues that this sentence means that once a project has been completed, NSR applicability is determined by whether the project actually caused a significant emissions increase. When this line is read in the context of the paragraph, however, it is clear that Ameren's interpretation is wrong. The paragraph as a whole simply stresses that there are two types of emissions calculations (a significant emissions increase and a significant *net* emissions increase) that must be established for PSD rules to apply. In other words, the line "The project is not a major modification if it does not cause a significant emissions increase" is merely emphasizing that both types of increases are required for establishing liability, and the failure to prove one type of emissions increase is fatal to a case.

Next, Ameren turns to the final sentence of 40 C.F.R. § 52.21(a)(2)(iv)(b), which provides: "Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase." *Id.* Ameren argues that this sentence means, "once construction is complete, applicability is determined based on what actually happened, 'regardless' of 'any such preconstruction

projections.’” [#545] at 5. Ameren misconstrues the sentence’s meaning. When this sentence is read in context with the rest of the paragraph, it is clear that instead of limiting post-project review to actual emissions increases, it actually provides that post-project emissions data provides an additional basis for liability.

Moreover, as EPA argues, adopting Ameren’s interpretation would require ignoring the language in those same paragraphs which state that applicability of the PSD rules must be determined “consistent with the definition of major modification contained in paragraph (b)(2) of this section.” That definition did not change with the 2002 Reform Rules, and continues to be phrased in terms of what *would* result – necessarily requiring a prospective determination.

Furthermore, nothing else in the 2002 Reform Rules evidences that EPA intended to alter its ability to bring an enforcement action under an expectations theory. I have not found, and Ameren has not pointed to, any statement by EPA that such a major change was intended. If EPA intended to limit its authority so drastically, it would have announced such a change. Moreover, in contrast, EPA did suggest that it maintained its ability to bring an enforcement action based on what a source should have projected and expected. In the preamble to the final rule, EPA stated that, under the new rules, if a source “begins construction” and then is “subsequently determined not to have met any of the obligations of these new alternatives (for example, failure to . . . properly project emissions . . .), you will be subject to any applicable enforcement provisions.” 67 Fed. Reg. 80,190 (Dec. 31, 2002).

Likewise, the PSD rules as a whole confirm that EPA continues to have the power to enforce CAA violations post-construction under an expectations theory. The Rules include detailed and specific requirements for calculating projected actual emissions. It would make no sense for EPA to provide detailed requirements for a source to follow – especially under the new

2002 Reform Rules scheme, which gives sources more autonomy in determining whether projects will trigger permitting requirements – without enabling EPA to enforce those requirements if it later learns that a source did not comply with them.

Ameren argues that it defies common sense to allow EPA to prove liability post-project based on what a source should have expected when actual emissions data is available and shows that emissions did not increase. While Ameren's complaint is understandable, I cannot say that there is no reason the EPA would have found such a result acceptable. As a program of prospective nature, the PSD's value is in ensuring compliance pre-project, so that increases in pollution can be prevented, and sources who are required to obtain permits and install BACT can do so when it is most cost-effective. And while EPA clearly decided to limit the burden that permitting authorities used to have by removing the requirement that certain projects be reviewed for PSD applicability pre-project, EPA surely maintains an interest in ensuring that sources who are now allowed to make their own projections do so properly. One way to do that is through deterrence. Subjecting sources to enforcement actions for improperly proceeding with a major project or otherwise failing to comply with the applicability determination rules will likely deter other sources from hastily or improperly making their own PSD projections.²⁰

Ameren relies heavily on *U.S. v. DTE Energy Co.*, 711 F.3d 643 (6th Cir. 2013) for the proposition that EPA cannot prove post-project liability under an expectations theory. *DTE* is

²⁰ As will be discussed below, the Sixth Circuit in *U.S. v. DTE Energy Co.*, 711 F.3d 643 (6th Cir. 2013) ("*DTE*") dismissed EPA's concern that operators will underestimate their projections because it takes a major risk when doing so. The *DTE* Court reasoned that because EPA now monitors emissions data post-project, and maintains authority to bring an enforcement action after project completion based on data showing an actual emissions increase, sources will be sufficiently deterred from underestimating projections. *Id.* at 649-51. While I agree that this is another way EPA has incentivized sources to comply with the regulations, I do not conclude that these provisions of the PSD program, and the fact that another source of deterrence exists, invalidates EPA's longstanding authority to prove liability post-project under an expectations theory. Nor do these changes to the PSD Rules demonstrate that EPA's intent was to limit its enforcement authority in this way. The purpose of the change of to a project-and-report scheme was to limit the burden on permitting authorities. This purpose is still met no matter whether EPA can proceed under an expectations theory or not.

the only PSD case to date that has been decided under the 2002 Reform Rules. In the DTE case, the EPA brought suit shortly after DTE Energy and Detroit Edison completed a project without obtaining a PSD permit. EPA argued that the project was a major modification and DTE should have expected an emissions increase when it commenced the project. DTE moved for summary judgment, arguing that EPA could not bring a case based on an expectations theory, and that any enforcement action under an actual emissions theory was not ripe because less than one year of actual emissions data had accumulated since the project concluded. DTE also argued that it had completed pre-project emissions projections that determined that the projects would not cause significant emissions increases, and EPA could not second-guess those projections. The United States District Court for the Eastern District of Michigan granted DTE's motion, holding that the determination of whether the project was a major modification was premature and EPA could "pursue NSR enforcement if and when post-construction monitoring shows a need to do so." *U.S. v. DTE Energy Co.*, 2011 WL 3706585 at *5 (E.D. Mich. 2011).

On appeal, the United States Court of Appeals for the Sixth Circuit reversed the District Court, holding that, "While the regulations allow operators to undertake projects without having EPA second-guess their projections, EPA is not categorically prevented from challenging even blatant violations of its regulations until long after modifications are made." *U.S. v. DTE Energy Co.*, 711 F.3d at 644 (6th Cir. 2013). Rather, the court concluded, "A preconstruction projection is subject to an enforcement action by EPA to ensure that the projection is made pursuant to the requirements of the regulations."²¹ *Id.* at 652.

²¹ Ameren appears to interpret the Sixth Circuit's holding as establishing two separate causes of action. First, a typical enforcement action, in which EPA claims that a source violated a requirement to obtain a PSD permit, and second, an action to ensure that the source made the projections in compliance with the regulations' requirements. Ameren appears to briefly argue that EPA did not bring a "projections enforcement" action in its complaint and therefore such a claim would be barred. I am not persuaded that such a distinction in the available cause of action exists and will deny Ameren's request to dismiss the claim on that basis.

The Sixth Circuit did not directly address the question of whether the EPA could proceed under an expectations theory when it brings suit post-construction. On one hand, its holding that EPA could bring a post-construction enforcement action challenging DTE's projections suggests that it approves of an expectations theory. On the other hand, the court emphasized that the 2002 Reform Rules rejected a "prior approval" scheme and instead "trust[ed] operators to make projections." *DTE* at 649. The Sixth Circuit also stated that "if the agency can second-guess the making of the projections, then a project-and-report scheme would be transformed into a prior-approval scheme." *Id.* Additionally, as discussed above, *see supra* n.20, the court rejected EPA's argument that operators might in bad faith artificially keep their emissions down for the five years following the project to avoid triggering PSD liability. In rejecting that idea, the court noted that "If a company's projections are later proven incorrect, EPA can bring an enforcement action." *Id.* at 651. For these reasons, I cannot agree with Ameren that *DTE* clearly rejected the possibility of EPA bringing an expectations theory claim post-construction. However, even if it had, I disagree with that conclusion. It is not the court's job to interpret regulations in a way that changes the law. Such changes are left to Congress and, as appropriate, the relevant administrative agency. For all of the reasons stated above, including the long history of EPA bringing post-construction actions under an expectations theory, the fact that the PSD program has always been and continues to be a prospective program, along with the lack of statutory, regulatory, or any other language indicating that such a drastic change was effected by the 2002 Rules, I cannot find that the 2002 Reform Rules eliminated EPA's ability to enforce CAA violations on an expectations theory. Instead, I conclude, consistent with the statutory and regulatory history and language of the CAA, EPA may proceed under both an expectations and actual emissions theory.²²

²² I further note that EPA's interpretation of its own regulation is entitled to deference unless that interpretation is

2. Summary Judgment on the Expectations Theory and Ability to Review for Reasonableness

Having concluded that EPA may proceed under an expectations theory, I next consider Ameren's argument that EPA should not be allowed to challenge the validity of Ameren's 2010 Project projections to argue that Ameren should have expected an increase because Ameren made the requisite projections before commencing the project (and did not expect emissions to increase). Ameren argues that while *DTE* allows EPA to review projections to make sure they comply with the specifications in the regulations, such review is limited to circumstances where the operator's projections failed to comply with the regulations' "specific instructions," such as using an improper baseline period.

Section 52.21(b)(41)(ii) of the 2002 Reform Rules provide:

(ii) In determining the projected actual emissions under paragraph (b)(41)(i) of this section (before beginning actual construction), the owner or operator of the major stationary source:

(a) Shall consider all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under the approved State Implementation Plan.

Id. As the Sixth Circuit explained:

The operator has to make projections according to the requirements for such projections contained in the regulations. If the operator does not do so, and proceeds to construction, it is subject to an enforcement proceeding. . . . The act's language is clear:

The [EPA] shall, and a State may, take such measures, including issuance of an order, or seeking injunctive relief, as necessary to prevent the construction or modification of a major emitting facility which does not conform to the requirements of

"plainly erroneous or inconsistent with the regulation." *Auer v. Robbins*, 519 U.S. 452, 461 (1997). For all of the reasons stated above, EPA's interpretation that it continues to possess enforcement powers under an expectations theory is reasonable and therefore entitled to deference.

this part.

42 U.S.C. § 7477. These requirements include making projections. 40 C.F.R. § 52.21(a)(2)(iv)(b). They also instruct operators to consider all relevant information, specifically listing some considerations; to include emissions associated with startups, shutdowns, and malfunctions; and to exclude post-project emissions that could have been accommodated during the baseline period and are unrelated to the project. *See id.* § 52.21(b)(41)(ii). . . . EPA's enforcement powers must also extend to ensuring that operators follow the requirements in making those projections. EPA must be able to prevent construction if an operator, for example, uses an improper baseline period or uses the wrong number to determine whether a projected emissions increase is significant.

U.S. v. DTE Energy Co., 711 F.3d 643, 649-50 (6th Cir. 2013).

I agree with *DTE* that EPA's enforcement powers include the power to make sure operators follow the PSD Rules' requirements for making projections. Moreover, EPA's power to review an operator's projections is not as limited as Ameren contends. An examination of the language in the projections requirements provision of the Rules shows that the EPA has required sources to consider "*all relevant information, including but not limited to . . .*" the "specific instructions" that Ameren argues EPA is limited to reviewing. 52.21(b)(41)(ii) (emphasis added). This language clearly indicates that making projections requires consideration of a broad range of information that is only limited by its relevance.

Ameren argues that EPA cannot use its own "retrospective projections" to argue that Ameren should have expected an increase in emissions. Ameren argues that if EPA's experts can look back at the facts available to Ameren at the time it made projections, and then make their own projections considering what they determine to be all the relevant information, EPA will effectively be arguing that Ameren "could have projected" an emissions increase. That is not so. As stated above, EPA has broad enforcement powers, which include the ability to review and challenge projections that it argues were not made in compliance with the CAA and PSD Rules. Moreover, under the "should have expected standard," EPA must also prove that had

Ameren properly calculated projected emissions, it should have expected them to increase. One way for EPA to do that is for its experts to review Ameren's projections, point out relevant information Ameren failed to include, and show that, when properly done, the projections would have shown an increase in emissions. Of course, if EPA merely argues that Ameren's projections complied with the regulations, but they "could" have been done another acceptable way, EPA will have trouble meeting its burden. But that is not what EPA claims it intends to do.

I also conclude that the question of whether Ameren should have expected its emissions to increase following the 2010 project is not appropriate for resolution at summary judgment based on the facts before me. There are multiple genuine issues of material fact on this question, including whether Ameren's projections were done in compliance with the CAA and the PSD Rules, and whether Ameren projected (or should have projected) an increase in actual emissions. *Compare* Ameren's SOF [#544] ¶¶ 11-15, with EPA's Response to Ameren's SOF [#602] ¶¶ 11-15. For example, Ameren argues that its projections comply with the CAA and PSD Rules, while EPA argues that Ameren did not evaluate all relevant information, and Ameren improperly excluded expected emissions under an erroneous interpretation of the demand exclusion. Ameren's SOF [#544] ¶ 13; EPA's Response to Ameren's SOF [#602] ¶ 13. Likewise, Ameren argues that it did not project an increase in emissions, and EPA argues that Ameren actually did project an increase in emissions, and that it should have expected an increase in emissions. Ameren's SOF [#544] ¶ 12, 14; EPA's Response to Ameren's SOF [#602] ¶ 11, 12, 14. For all of these reasons, Ameren's Motion for Summary Judgment No. 2: Concerning NSR Applicability is denied.

**D. Ameren's Motion for Summary Judgment No. 3: Evidence Concerning a
"Reasonable Power Plant Operator"**

Ameren's Motion for Summary Judgment No. 3: Evidence Concerning a "Reasonable Power Plant Operator," asks whether, under an expectations theory, EPA must present evidence on the standard of care for a reasonable power plant operator or owner. Ameren argues that EPA must come forward with admissible evidence of what a reasonable power plant operator or owner would expect, and its failure to do so is fatal to EPA's expectations theory case, warranting a grant of partial summary judgment. Ameren acknowledges that the determination of whether a party acted reasonably is generally a question for the factfinder.²³ But, Ameren argues, when the touchstone for objective reasonableness requires a technical understanding of the subject matter that is beyond a layperson's normal understanding, the factfinder must have guidance to make that determination. Ameren compares this to the requirement in professional negligence cases, such as a medical malpractice case, that a plaintiff provide standard of care evidence when liability turns on a violation of professional standards.

EPA opposes Ameren's motion, arguing that standard of care evidence is not required. Instead, EPA argues that the CAA and the PSD regulations themselves will guide the factfinder's determination. The CAA and the PSD require sources to make projections under an actual-to-projected-actual methodology, and to consider "all relevant information, including but not limited to, historical operational data, the company's own representations, the company's expected business activity and the company's highest projections of business activity, the company's filings with the State or Federal regulatory authorities, and compliance plans under

²³ At the time these motions were filed, this action was set for a jury trial. Since then, EPA removed its claims for civil penalties. As a result, EPA only seeks equitable and injunctive relief, which means Ameren no longer has a right to a jury trial. See the Court's Memorandum and Order of February 8, 2016 #[719]. Accordingly, while the parties' briefs discuss this issue in the context of a jury trial, I will address it as it relates to its current context in a bench trial setting.

the approved State Implementation Plan.” 40 C.F.R. § 52.21(b)(41)(ii). EPA argues that a determination about what a reasonable power plant operator or owner would have concluded at the time Ameren made its projections can be made simply by reviewing the facts within the standards of this regulatory framework. EPA contends that a review of Ameren’s own documents, with the help of expert testimony, will provide sufficient evidence for the factfinder to determine whether Ameren’s projections and expectations were reasonable and made in compliance with the regulations.

I agree with EPA that no special standard of care evidence is required for the factfinder to be able to determine whether a reasonable power plant operator or owner would have expected the projects to cause a significant emissions increase. The legal standards supplied by the PSD rules are sufficient to guide the analysis. Additionally, the parties have submitted mountains of evidence regarding what they believe a reasonable power plant operator or owner would have concluded. Their experts plan to testify about what Ameren did to make its projections, what information Ameren considered or did not consider, and why, and what the projections showed. This method has worked for the courts that have considered expectations theory enforcement actions before. *See e.g., United States v. Duke Energy Corp.*, 981 F.Supp.2d 435, 439 (M.D.N.C. 2013); *United States v. La. Generating*, 929 F.Supp.2d 591, 593 (M.D. La. 2012); *United States v. Cinergy Corp.*, 623 F.3d 455, 459 (7th Cir. 2010). Indeed, in *US v. Cinergy Corp.*, which actually submitted this issue to a jury, the Court instructed the jury as follows (in relevant part):

Your consideration of whether a reasonable owner or operator should have expected a project to result in a significant net increase in emissions is not dependent upon whether emissions actually increased after a project. The law requires an owner or operator to make an assessment or prediction on that question before the project begins. Therefore, you must look to the information available to Defendants at the time that they began a project and decide whether a reasonable owner or operator

should have predicted that a project would have caused a net increase of 40 or more tons per year in sulfur dioxide or nitrogen oxide emissions. You should consider all relevant information available to Defendants at the time of the project, including prior operating data and Defendants' own statements and documents.

US v. Cinergy, 1:99 cv 1693 LJM JMS, Jury Instruction No. 23 (*Doc. No. 1335*) (S.D. Ind.

2008). The jury in that case returned a mixed verdict under this standard, finding that some of the challenged projects were major modifications and others were not, which suggests they were capable of parsing the standard.

Accordingly, I conclude that EPA is not required to present standard of care evidence on what a "reasonable power plant operator or owner" would expect. As a result, Ameren's argument that it is entitled to summary judgment on EPA's expectations arguments because of the lack of any standard of care evidence will be denied.

E. Ameren's Motion for Summary Judgment No. 4: On EPA's "Increased Capacity" Claim

In Ameren's Motion for Summary Judgment No. 4: On EPA's "Increased Capacity" Claim, Ameren argues that EPA has no competent evidence to support "increased capacity" (also called its "regained capability") claim.²⁴ EPA opposes the motion, arguing that it has produced competent evidence in support of its claim, and in any event, resolution of the issue requires weighing evidence which is inappropriate at summary judgment. For the reasons that follow, I will deny Ameren's motion because EPA has set-out specific facts showing that there are several genuine issues of material fact for trial.

EPA has alleged, and Ameren does not dispute, that before the projects occurred, Rush Island Units 1 and 2 experienced degraded capability because of "pluggage." Pluggage occurs in coal-fired power plants because the combustion of coal results in the creation of fly ash, which

²⁴ For purposes of this order, I will also refer to the theory as a "regained capability" theory, as the term is more specific and descriptive than "increased capacity."

adheres to the boiler's economizer and air preheater components. When ash accumulates over time, it plugs spaces between the major components and blocks air flow needed for coal combustion, much like how a clogged air filter limits airflow in a car.²⁵ "Capability" means the amount of electricity, measured in megawatts, that a unit can generate at a given moment in time. Capability fluctuates over time due to many factors, including ambient air and water temperatures, coal quality and condition, and physical limitations in the turbine and boiler components (such as limitations caused by pluggage).

EPA's regained capability theory is that the challenged projects eliminated the units' pluggage problems, and, as a result, the previously lost capability was regained, allowing the units to operate for more hours, burn more coal, and emit a significant amount of additional sulfur dioxide per year.

Ameren does not dispute that the units experienced significant pluggage problems, that those problems limited the units' capability pre-project, or that the units' stated capabilities increased after the projects. What Ameren does dispute is that the projects' elimination of the pluggage problems *caused* the units to regain capability, and that any regained capability led to net increases in emissions. Ameren argues that it was not the elimination of pluggage that caused capability increases, but rather, other (unchallenged) work done at the same time. Ameren also argues that this other work, along with the challenged projects, substantially improved the units' efficiency, which increased the unit's capability without causing it to burn more fuel or increase emissions.

²⁵ EPA alleges that the pluggage was caused by the particular characteristics of the low-sulfur Powder River Basin coal ("PRB coal") that Ameren was burning at the time. While pluggage is normal and usually does not limit operations, here, the PRB coal had a higher moisture content than the coal Ameren designed the unit to accommodate, so it became a significant problem and limited the units' operations.

In support of its regained capability claim, EPA cites to Ameren's own documents from before and after the projects to argue that Ameren did and should have expected the projects to lead to increases in the units' capability ratings, and that the data shows that the units did actually gain capability increases after the projects. These include documents showing the units' historical operating data, internal emails discussing the units' pluggage problems, deposition testimony, and several of EPA's experts' analyses of these documents and projection models to show that pluggage caused a capability reduction before the projects, and the projects caused the increased capability.

Ameren critiques EPA's evidence and argues that as a matter of law it cannot support EPA's theory. As I must do when considering a "no-evidence" summary judgment motion, I will consider EPA's evidence in the light most favorable to it and determine whether, as a matter of law, it can be said that the evidence is incompetent or lacking.

1. Reduced Capability Evidence

EPA first cites to Ameren's 2006 Capability Table to show that the capability was reduced before the projects. Each year, Ameren estimates what its units' capabilities will be for the forthcoming year. In 2006, Ameren reduced Unit 1 and Unit 2's stated capabilities from the previous year by approximately 10 to 15 MW. Ameren's SOF ¶ 25 [#550]. A reduction of stated capability is considered to be a "permanent" capability reduction.

EPA's expert Robert Koppe has opined that, in addition to the 2006 permanent capability reduction, the units were still unable to attain even this reduced level of capability because the pluggage problem worsened. Instead of further reducing the units' stated capabilities, Ameren allegedly reported the additional limitations as variable "deratings." A derating is an event where the unit continues to operate, but cannot achieve all of its stated capability. This can

happen for a number of reasons, including problems with components (like boiler pluggage) or problems with operations (like wet coal). It is Koppe's opinion that both the permanent capability reductions and the variable deratings were caused by pluggage problems. *See* EPA's Addl. SOF [#549-1] at ¶¶ 2-4, 25-29, 41-80; Koppe Rpt. pp. 20-27, 41-42, 58-61, 91.

EPA also cites to emails from July 2005 that purportedly show that Ameren employees believed that pluggage limited the units' capabilities. EPA's Addl. SOF [#560-1] at ¶¶ 5-14. These emails were originated by Steven Schoolcraft, Ameren's dispatch coordinator, who emailed Rush Island plant staff to inquire why the units could not achieve their stated capabilities. Schoolcraft had noted that the units were operating at 10 to 20 MW less than what they were rated for. *Id.* at ¶ 5. Ameren engineer Jon Williams responded to the Schoolcraft email, stating that air preheater pluggage was blocking the flow of air on Unit 1 and Unit 2. *Id.* at ¶ 6-10. Ameren's Supervisor for Performance Engineering then replied that they would "have to live with the load limitations on RI due to fan capacity limits" and querying whether this problem was "beyond recovery due to the permanently plugged air heaters [sic]?" *Id.* at ¶ 11.

EPA contends that Ameren's own full load tests from 2005 to 2006 (and in 2007 for Unit 2) confirm the substance of the email exchange. At Rush Island, full load tests are performed on a weekly basis "to provide plant personnel with unit capability information." *Id.* at ¶¶ 19-21; Bosch. Depo. at 48-50. The full load tests showed that the units' capabilities were limited, and provided, at times, that such limitations were due to forced fan capacity and "by the [induced draft] fan suction pressure . . . Boiler is plugged." *Id.* at ¶ 21.

Ameren contends that this evidence is incompetent and cannot create a genuine issue of material fact. Ameren argues that Koppe bases his entire opinion that pluggage caused the reduced capability before the projects on one sentence in the cover memorandum to the 2006

Unit Capability Table. Ameren also criticizes Koppe for his lack of personal knowledge and lack of reference to anything outside of the memorandum. Ameren argues that the Ameren employees who do have personal knowledge have stated that pluggage was not the cause of the 2006 capability reduction, but rather, the units' condenser backpressure, which was caused by changes in river temperature. Ameren's SOF ¶¶ 53-56; Sind Declaration ¶¶ 5-12; *see also* Shelton Declaration ¶¶ 9-10 [#568-5]. EPA acknowledges that Ameren listed condenser backpressure as the sole cause of lower capability at Unit 1 in one of the full load tests performed. But EPA argues that condenser backpressure was only a part of the problem, and other tests showed that Unit 1 was limited by "Condenser backpressure and boiler air flow restrictions." EPA's Addl. SOF at ¶ 24.

Finally, Ameren also argues that EPA cannot count the capability limitations it reported as variable "deratings" in its regained capability claim because Ameren reported those limitations as affecting availability, and EPA used those reductions as a basis for its "regained availability" opinion. EPA responds that this is a sort of false criticism, and what really matters is what the capability was at baseline and what it was expected to be post-project, for which EPA has produced evidence.

2. Increased Capability After the Projects and Competency of the Data

In addition to arguing that EPA cannot show that the pre-project capability reductions were due to pluggage problems, Ameren similarly argues that EPA cannot show that any increases in capability gained after the projects were completed were caused by the projects' elimination of pluggage. Here, too, Ameren acknowledges that EPA cites to evidence for its claim, but argues that the evidence EPA relies on is incompetent.

Ameren's first attack on EPA's evidence, and in particular, Koppe's analysis, is that Koppe failed to consider any evidence of the units' overall operations as required by the regulations. Specifically, Ameren argues that Koppe only examines full load data, but the majority of the time, units do not run at full load capability. As the regulations require emissions projections to be made by comparing the unit emissions as a whole, and Koppe's opinion is only based on unit operations during full load times, Ameren argues that Koppe's comparison of emissions level based on full load data before and after the projects only tells part of the story and cannot demonstrate that Ameren should have expected emissions to increase. Ameren also argues that EPA failed to account for how efficiency savings after the projects would offset the increases in annual emissions that would otherwise have resulted.

EPA responds that full load test data is competent data because full load tests are designed to provide capability information, and that in any event, the data clearly shows that the hourly heat input increased after the projects. EPA also argues that its production cost modeling expert Dr. Ezra Hausman did consider data outside of full load, i.e., valves wide open, times, and whether efficiency savings would offset the hourly heat input increases, and found that they would not. EPA's Addl. SOF at ¶¶ 88-89. Instead, Dr. Hausman predicted that, even when accounting for efficiency gains, the units would still produce hundreds of tons of additional emissions. *Id.* at ¶ 89. Likewise, Ameren's own emissions analysis of the 2010 project, which considered efficiency impacts, projected an increase in sulfur dioxide emissions of more than 2,000 tons a year. EPA's Emissions SOF, [#560-1], ¶¶ 149-150.

Ameren's other major criticism is that the Plant Information data ("PI data") that is the basis of Koppe's supplemental report is legally irrelevant because it analyzes data from the wrong time periods. Koppe's baseline period does not track the baseline period Ameren elected

to use, and the time periods that Koppe examined were of the wrong duration (e.g., Koppe looked at PI data for periods of 2 and 10 months when the regulations would require looking at 12 months of data; and a period of 13 months when the regulations would require looking at 24 months of data). Ameren argues that any analysis based on this data is incompetent and will produce misleading results. Ameren also argues that the PI data is factually irrelevant because, rather than compare the units' capabilities pre- and post-project, Koppe compares actual operations data to compare average capabilities pre- and post-project.

EPA responds that the PI data that Koppe reviewed was from representative time periods and matched the required time periods as closely as possible. EPA further argues that Koppe used all of the data that Ameren provided; and when it did exclude certain data, it was because the data was unreliable because of extenuating circumstances, such as time periods when the units were experiencing forced outages. EPA's Addl. SOF at ¶ 57. EPA also contends that Ameren cannot complain about the time periods Koppe examined, because Ameren's expert Marcus Caudill examined the same time periods. Moreover, EPA argues that the data clearly shows that the boiler upgrades increased the hourly heat input and capability at both units. EPA's Addl. SOF at ¶ 53. Koppe found that, as relevant to the boiler upgrades, and excluding efficiency savings and increases in capability not caused by increases in hourly heat rate, Unit 1's capability increased by 19 MW after the 2007 project, and Unit 2's capability increased by 38 MW after the 2010 project. EPA's Addl. SOF at ¶¶ 68-69, 76; EPA's Emissions SOF at ¶¶ 61-67.

EPA also argues that the work papers of Ameren's expert Sandra Ringlestetter Ennis confirm Koppe's PI data analyses. Ennis' work papers predicted the units' heat rates would increase after the projects (meaning they would be less efficient), and that the heat rate actually

did increase post-project. EPA's Addl. SOF at ¶¶ 90-91. Likewise, EPA finds that Unit 1 actually emitted 665 more tons of sulfur dioxide after the 2007 project. EPA's Addl. SOF at ¶ 92. However, EPA concedes that Ennis' papers show that the heat rate did not increase at Unit 1, though EPA claims the reason is that it was wrongly underrated pre-project. Ennis' papers also show that Unit 2's heat rate increased after the 2010 project, and Unit 2 actually emitted 2,170 additional tons of sulfur dioxide per year. EPA's Addl. SOF at ¶ 93. As a result, EPA argues that it has produced evidence that Ameren expected or should have expected the projects to allow Ameren to regain previously lost capability, which in turn increased the units' operations and emissions above the significant 40 tons per year threshold.

After careful consideration of the arguments and evidence before me, and under the appropriate standards, I conclude that EPA has set-out specific facts showing that there are several genuine issues of material fact for trial. At best, Ameren's motion asks me to weigh the credibility of the parties' experts. That is not an appropriate consideration at summary judgment. Ameren's arguments challenging the competency of EPA's evidence are better brought as fodder for cross-examination. As a result, I will deny Ameren's Motion for Summary Judgment No. 4: On EPA's "Increased Capacity" Claim.

F. EPA's Motion for Partial Summary Judgment on Defendant's Violations of the Clean Air Act at Rush Island Unit 2

EPA argues that it is entitled to partial summary judgment that Ameren should have expected the 2010 project at Rush Island Unit 2 to result in an increase of over 40 tons of SO₂ emissions. As noted above, a major modification requires a showing that there was both a significant emissions increase and a significant net emissions increase. This motion only focuses on establishing the first part of the analysis – whether there was a significant emissions increase,

and does not address whether there was also a net emissions increase (which I discuss further in the context of the parties' motions on causation and the demand growth exclusion, *see supra* Section III.B.).

Ameren opposes EPA's motion, arguing that EPA's motion is "legally invalid" because it asks the court to make a fact determination based on disputed evidence that would impermissibly require the court drawing inferences in EPA's, rather than Ameren's, favor. Ameren disputes the facts that EPA claims are undisputable, specifically, that it expected increases in emissions, and argues that EPA has not and cannot establish causation.

I agree with Ameren that resolution of this motion on summary judgment is not possible. EPA argues that Ameren should have expected the 2010 project at Rush Island Unit 2 to increase emissions because (1) Ameren expected and realized increases in the unit's capability, and (2) Ameren expected and realized increases in the unit's equivalent full power hours. EPA provides evidence in support of these arguments, including Ameren's own computer modeling projections, emissions analyses, internal planning documents, project authorizations, cost-benefit analyses, capability statements, and Ameren's representations to the Missouri Public Service Commission, among others. *See, e.g.*, EPA's SOF at ¶¶ 15-18; 26; 47-51; 61-80; 84-87; 93; 95-98; 107-115; 118-126; 130; 143-152. These documents purportedly show that Ameren expected Unit 2's capability and availability to increase post-project.

However, as Ameren correctly points out, even taking all these documents to be true, which would be inappropriate as I must grant all reasonable inferences and view all facts in the light most favorable to Ameren (and Ameren's witnesses dispute the meaning of these documents, the reliability of EPA's experts' analyses, and whether Ameren expected capability and full power hour increases, *see* Ameren's Response SOF [#608] at ¶¶ 121-131, 137-139,

141-142; Ameren's Additional SOF [#608] at ¶¶ 6-19, 29-32), EPA still has not established as a matter of law that Ameren expected the challenged component replacements to *cause* the emissions increases. EPA does present evidence, mostly in the form of expert opinions, to substantiate the causation element.²⁶ However, Ameren's expert Marcus Caudill disputes that the component replacements at issue in this case caused the capability increases. *See* Report of Marcus Caudill at 66-71 [#541-2]. Ruling on EPA's motion at this stage would require making a credibility determination based on both sides' experts' opinions, and that is not possible without hearing their testimony. Rather, the credibility of the parties' experts, and the evidence, must be weighed at trial. *See Scallon v. U.S. Ag Center, Inc.*, 42 F. Supp. 2d 867, 870 (N.D. Iowa 1999) (when parties rely on battling experts to establish material facts, the facts are not "undisputed" as required to grant summary judgment under Rule 56 of the Federal Rules of Civil Procedure). As a result, I will deny EPA's motion for partial summary judgment on Defendant's Violations of the Clean Air Act at Rush Island Unit 2.

G. Ameren's Motion for Summary Judgment No. 7: Regarding Title V

In its third and fourth claims for relief, EPA alleges that, by engaging in the major modifications of Units 1 and 2 without the PSD permits and without amended Title V operating permits, Ameren violated Title V of the CAA and Missouri's federally-enforceable Title V regulations. Specifically, EPA alleges that Ameren violated the Title V requirements by operating Units 1 and 2 without an adequate Title V permit, and by operating the units in violation of the terms of Ameren's Title V permit.

Ameren moves for partial summary judgment on EPA's Title V claims, arguing that I lack subject matter jurisdiction to hear EPA's claim that Ameren is operating under an

²⁶ EPA also presents evidence on the effect that pluggage and fouling had on reducing Unit 2's capability pre-project. *See* EPA's SOF [#560-1] ¶¶ 19-48. However, taking this evidence in the light most favorable to Ameren, I cannot conclude as a matter of law that EPA has established causation.

inadequate or deficient permit.²⁷ For the reasons that follow, I find that I do have subject matter jurisdiction over EPA's Title V claims and I will deny Ameren's motion.²⁸

1. Statutory and Regulatory Background

Title V of the CAA, 42 U.S.C. § 7661–7661f, established a federal operating permit program to ensure major sources of air pollution comply with the CAA. *See* 42 U.S.C. § 7661 *et seq.*; 40 C.F.R. Part 70. Title V prohibits operation of a major source without a comprehensive operating permit and the operation of a major source in violation of the terms of the source's Title V permit. 42 U.S.C. § 7661a(a); *Util. Air Regulatory Grp. v. E.P.A.*, 134 S. Ct. 2427, 2436, 189 L. Ed. 2d 372 (2014). As the Eighth Circuit has explained:

These “Title V” permits do not generally impose any new emission limits, but are simply intended to incorporate into a single document all of the CAA requirements governing a facility. Similar to other CAA programs, Title V is implemented primarily by the states under EPA oversight. In states with EPA approved programs, Title V permits are issued by the state permitting authority, but are subject to EPA review and veto.

Sierra Club v. Otter Tail Power Co., 615 F.3d 1008, 1012 (8th Cir. 2010) (internal citations and quotations omitted).

Missouri's Title V operating permit program was approved by EPA and is codified at 10 C.S.R. 10-6.065 and is incorporated into the Missouri SIP. 62 Fed. Reg. 26,405 (May 14, 1997). Applicants for Title V permits must identify, include, and certify compliance with all applicable CAA requirements in their application. 10 C.S.R. 10-6.065(6). This includes, as relevant here, identifying and certifying compliance with the PSD rules. *Id.* at 10-6.020(2)(A)23.

EPA has authority to oversee the Title V permitting process. 42 U.S.C. § 7661d. State

²⁷ Ameren also moved for a ruling that any Title V violation Ameren is found to have committed is a single, non-continuous violation, and not an ongoing violation generating penalties. Because EPA has since withdrawn its claims for civil penalties, this issue is now moot.

²⁸ To be clear, Ameren has not challenged this Court's jurisdiction over EPA's claims that Ameren is operating Units 1 and 2 in violation of the terms of Ameren's Title V permit, nor do I doubt that subject matter jurisdiction exists in this Court over that claim.

permitting authorities submit permit applications to the Administrator of EPA for review. 42 U.S.C. § 7661d(a)(1). If the Administrator determines that “any permit contains provisions that are . . . not in compliance with the applicable requirements . . . the Administrator shall . . . object to its issuance” within 45 days. § 7661d(b)(1). If the Administrator objects, the state permitting authority may not issue the permit unless it is revised to meet the objection. § 7661d(b)(3), (c). If the Administrator does not object to the permit, then “any person may petition the Administrator within 60 days after the expiration of the 45-day review period . . . to take such action.” § 7661d(b)(2). Within 60 days after a petition is filed, the Administrator must grant or deny the petition. *Id.*

“Any denial of such petition shall be subject to judicial review under section 7607 of [42 U.S.C.].” *Id.* Section 7607(b) provides that any “final action of the Administrator . . . (including any denial or disapproval by the Administrator) may be filed only in the United States Court of Appeals for the appropriate circuit..” § 7607(b)(1). “Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil . . . proceedings for enforcement.” § 7607(b)(2).

In addition to EPA’s authority to oversee the Title V permitting process, the CAA delegates authority to EPA to enforce any violation of Title V. 42 U.S.C. §§ 7413(a)(3), (b)(2); (a)(1); 28 U.S.C. §§ 1331, 1345, 1355.

2. Discussion

Ameren has been operating Rush Island under a Title V permit issued by the Missouri Department of Natural Resources. Ameren’s Title V permit provides, in relevant part:

Construction Permits Required:

The permittee shall not commence construction, modification, or major modification of any installation subject to this rule, begin operation after that construction, modification, or major modification, or begin operation of any

installation which has been shut down longer than five (5) years without first obtaining a permit from the permitting authority. [Doc. #18-4], Permit to Operate at 26.

The permittee shall submit an annual certification that it is in compliance with all of the federally enforceable terms and conditions contained in this permit, including emissions limitations, standards, or work practices. These certifications shall be submitted annually unless the applicable requirement specifies more frequent submission. [Doc. #18-4, Permit to Operate at 32]

EPA alleges that Ameren failed to comply with Title V permitting procedure because it did not submit an accurate and complete Title V permit application before commencing the alleged major modifications at Rush Island (the 2007 and 2010 Projects). As a result, EPA alleges that Ameren has been operating Rush Island Units 1 and 2 without a proper or adequate Title V permit.

Ameren contends that I lack subject matter jurisdiction to hear EPA's claim concerning the validity of Ameren's Title V permit. Ameren argues that the administrative process under § 7661d of the CAA provides a clear and comprehensive method by which EPA can review and challenge the adequacy of a Title V permit, and that method is by objecting at the time of the permit application. Ameren further argues that EPA's failure to object to the adequacy of Ameren's Title V permit at the time of Ameren's application was a "final Action of the Administrator with respect to which review could have been obtained" under Section 7661d(b)(1). Accordingly, Ameren argues that EPA's current challenge to the validity of its permit is "not . . . subject to judicial review" in this enforcement action. § 7607(b)(2). Rather, Ameren argues, the exclusive method of seeking review is through an action in the appropriate circuit court.

EPA contends that I do have jurisdiction over its Title V claims because Congress delegated broad authority to EPA in the CAA to address Title V violations either by objecting to

the state-issued Title V permit during the administrative process *or* through an enforcement action, and thus its potential failure to object to the issuance of Ameren's Title V permit in the first place does not deprive it of its ability to enforce alleged violations now. Additionally, EPA argues that Ameren wrongly applies jurisdictional law regarding civilian suits to the EPA enforcement context.

I agree with EPA that I have jurisdiction to hear its claim that Ameren is operating under an inadequate permit. First, as EPA points out, Congress gave EPA broad enforcement authority under the CAA to bring a civil action “whenever” it finds that “any person has violated, or is in violation of, any other requirement or prohibition of . . . subchapter V [regarding Title V permits] . . . including, but not limited to, a requirement or prohibition of any rule, plan, order, waiver, or permit promulgated, issued, or approved under those provisions or subchapters” 42 U.S.C. § 7413(3)(C). Because the provisions of Title V require sources to include “enforceable emission limitations . . . and such other conditions as are necessary to assure compliance with applicable requirements of [the CAA],” EPA argues that Ameren has violated a requirement of Title V that is subject to an enforcement action. 42 U.S.C. § 7661c(a). Indeed, several courts have emphasized the broad scope of EPA's enforcement powers in upholding its ability to prosecute Title V violations. *See, e.g., LaGen*, 938 F.Supp. 2d 615, 627 (M.D. La. 2011); *United States v. E. Ky. Power Co-op, Inc.*, 498 F.Supp.2d 1010, 1018 (E.D. Ky. 2007); *see also Citizens Against Ruining the Environment v. EPA*, 535 F.3d 670, 678–679 (7th Cir. 2008) (emphasizing same in the judicial review context).

Second, Ameren's citation to case law regarding civilian suits is inapplicable here, in the context of an EPA enforcement action. Ameren relies heavily on the Eighth Circuit's opinion in *Sierra Club v. Otter Tail Power Co.*, 615 F.3d 1008, 1023 (8th Cir. 2010). There, the court held

that the district court did not have jurisdiction to hear a collateral attack on the defendant's Title V permit because plaintiff Sierra Club could have brought its claim that the permit was not in compliance with the CAA's requirements during the permitting process. *Id.* at 1020-21. That process, as discussed above, provides that civilians wishing to challenge the validity of a Title V permit must petition the Administrator within 60 days of the Administrator's review period, and "[a]ny *denial* of such petition shall be subject to judicial review under section 7607 of [42 U.S.C.]." 42 U.S.C. § 7661d(b)(2) (emphasis added). Then, if the Administrator denies the petition, for example, a civilian may only bring suit in the appropriate court of appeals, or, if the Administrator disapproves the permit application, the source may bring suit in the appropriate court of appeals. *Id.* at § 7607(b)(1). "Action of the Administrator with respect to which review could have been obtained under paragraph (1) shall not be subject to judicial review in civil . . . proceedings for enforcement." § 7607(b)(2).

As a matter of common sense, these judicial review provisions simply cannot apply to an EPA enforcement action because EPA would never be in the position to seek judicial review against itself. In other words, it cannot be said that this is an action "with respect to which review could have been obtained" under 7606(b)(1) because the only action available in 7607(b)(1) is an action challenging the Administrator's own decision.²⁹ Furthermore, the policy reasons behind the judicial review provisions in §§ 7607 and 7661d do not apply to an EPA enforcement suit. While §§ 7607 and 7661d encourage those who wish to object to an EPA final action to do so in a timely manner, and they may help prevent the filing of duplicative

²⁹ Ameren cites several cases in support of its motion, including *United States v. EME Homer City*, 727 F.3d 274, 299 (3d. Cir. 2013) (finding that the District Court lacked jurisdiction to hear a challenge to a facially valid Title V permit) and *Romoland School Dist. v. Inland Empire Energy Center, LLC*, 548 F.3d 738, 756 (9th Cir. 2008) (finding challenges to an issued Title V permit "may only be brought in accordance with the judicial review procedures authorized by Title V . . . and may not be brought in federal district court under the Act's citizen provision") (internal citation omitted). However, these cases are either non-binding authority or are distinguishable from the context here.

proceedings by EPA and private citizens, there is no risk of duplicative suits here where EPA is the only plaintiff and cannot bring suit against itself, nor is EPA's timeliness much of a factor where, as here, the information forming the basis of its claim was not known to it at the time it reviewed Ameren's Title V permit.

Accordingly, I find that I have jurisdiction to hear EPA's Title V claims against Ameren, and I will deny Ameren's motion.³⁰

H. Expert Challenges

The parties challenged several of each other's experts' qualifications and abilities to present expert testimony. I ruled on most the parties' motions challenging experts at oral argument on November 19, 2015. Two motions remain pending: Ameren's motion to exclude the expert opinions and testimony of David Lloyd, and EPA's motion to exclude certain opinions of Sandra Ringelstetter Ennis. For the reasons that follow, I will deny both of these motions.

1. Legal Standard for Expert Testimony

Federal Rule of Evidence 702 governs the admissibility of expert testimony. Rule 702 provides:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Under Rule 702, the trial judge acts as a "gatekeeper" screening evidence for relevance and reliability. *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993). "Rule 702

³⁰ Ameren also originally argued that if I finds Ameren violated the terms of its Title V permit, it is only liable for a one-time, non-continuing violation. This argument goes to EPA's claim for civil penalties. Since this motion was briefed, however, EPA withdrew its claims for civil penalties. As a result, Ameren's argument on this question is moot and will be denied.

reflects an attempt to liberalize the rules governing the admission of expert testimony. The rule clearly is one of admissibility rather than exclusion.” *Lauzon v. Senco Prods., Inc.*, 270 F.3d 681, 686 (8th Cir. 2001) (internal quotations and citations omitted).

The party proffering an expert witness must establish by a preponderance of the evidence that the witness testimony is admissible. *Daubert*, 509 U.S. at 592 & n.10 (citing Rule 104(a)).

A district court applies a three-part test when screening expert testimony under Rule 702:

First, evidence based on scientific, technical, or other specialized knowledge must be useful to the finder of fact in deciding the ultimate issue of fact. This is the basic rule of relevancy. Second, the proposed witness must be qualified to assist the finder of fact. Third, the proposed evidence must be reliable or trustworthy in an evidentiary sense, so that, if the finder of fact accepts it as true, it provides the assistance the finder of fact requires.

Polski v. Quigley Corp., 538 F.3d 836, 839 (8th Cir. 2008) (quoting *Lauzon*, 270 F.3d at 686).

The broad and generally stated test for determining the qualifications of a given witness to testify as an expert is whether his knowledge of the subject matter is such that his opinion will most likely assist the trier of fact in arriving at the truth. *Holmgren v. Massey-Ferguson, Inc.*, 516 F.2d 856, 857–58 (8th Cir. 1975) (internal citations omitted); *Chicago Great Western Ry. Co. v. Beecher*, 150 F.2d 394 (8th Cir. 1945), cert. denied, 326 U.S. 781 (1946)). “[T]he rejection of expert testimony is the exception rather than the rule.” *Robinson v. GEICO General Ins. Co.*, 447 F.3d 1096, 1100 (8th Cir. 2006) (citing Fed. R. Evid. 702 advisory comm. note). “Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.” *Id.*

2. Ameren's Motion to Exclude the Expert Opinions and Testimony of David Lloyd

Ameren moves to exclude the testimony of EPA's expert David Lloyd in its entirety.³¹ Mr. Lloyd offers an opinion relating to whether the challenged projects qualify for the routine maintenance, repair, and replacement (RMRR) exception. Ameren argues that Mr. Lloyd's testimony should be excluded in its entirety because (1) his opinions are improper legal conclusions, (2) his opinions are unreliable because he aggregates the component replacements into two rather than seven projects and he does not compare the projects to other work done in the industry, and (3) he is unqualified.

First, I have reviewed Mr. Lloyd's qualifications and find that EPA has established by a preponderance of the evidence that Mr. Lloyd is sufficiently qualified by his extensive experience doing RMRR analyses at coal-fired power plants. Mr. Lloyd is an environmental scientist and air enforcement technical advisor at the EPA. He has 16 years of experience working for EPA and conducting routine maintenance analyses at more than 70 coal-fired generating units at more than 25 coal-fired power plants. He has also served as a national expert for EPA's Clean Air Act New Source Review National Enforcement Initiative, which is the applicable regulatory scheme here. *See* Summary Expert Disclosure of U.S. EPA Employee Expert David A. Lloyd (Oct. 30, 2014). Accordingly, Mr. Lloyd is qualified by his experience and his expertise is relevant to the opinions he offers.

Second, as I stated on the record at the November 19, 2015 hearing on most of the parties' motions challenging experts, none of the experts will be allowed to present opinions in

³¹ Mr. Lloyd is an EPA enforcement employee and served as a fact witness for EPA until EPA's RMRR expert, Alan Hekking, had to terminate his work on this case for reasons unrelated to this case. I granted EPA leave to substitute witnesses in Hekking's place, and EPA offered Lloyd as well as another expert. Mr. Lloyd adopts two portions of Hekking's expert report: the Executive Summary and the Conclusions, both of which analyze whether the challenged projects are routine maintenance.

the form of a legal conclusion. Of course, where, as here, industry practice or standards are relevant to the case, expert and fact witness testimony on these standards may be admissible. *See S. Pine Helicopters, Inc. v. Phoenix Aviation Managers, Inc.*, 320 F.3d 838, 841 (8th Cir. 2003).

Additionally, challenges to an expert that really go to credibility and the weight of the evidence rather than to an expert's qualifications will be taken up at trial. Ameren will have the opportunity to cross-examine Mr. Lloyd on the factual bases for his opinions at trial. *See Synergetics, Inc. v. Hurst*, 477 F.3d 949, 955-56 (8th Cir. 2007) ("As a general rule, the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in cross-examination.") (internal citations omitted). And I will be in a better position to evaluate Mr. Lloyd's reliability and credibility at trial.³² As a result, Ameren's motion to exclude Mr. Lloyd's testimony is denied.

3. EPA's Motion to Exclude Certain Opinions of Sandra Ringelstetter

Ennis

EPA moves to exclude certain opinions of Sandra Ringelstetter Ennis, one of Ameren's proffered experts on causation and the demand growth exception. EPA seeks to exclude Ms. Ringelstetter Ennis' opinions because she opines that the units' projected emissions increases were "unrelated" to the challenged projects because they could have been accommodated at baseline. EPA contends that Ms. Ringelstetter Ennis' opinion that emissions that could have been accommodated are per se unrelated is an erroneous legal conclusion, making Ms. Ringelstetter Ennis' opinions unreliable. Ameren contends that Ms. Ringelstetter Ennis' interpretation is correct, and in any event, that she analyzes relatedness in other portions of her

³² It bears repeating that this case is set for a bench trial and therefore there is no risk that a jury will be confused or misled by the presentation of evidence that might be unreliable and ultimately excluded from evidence.

expert report.

Much of the argument presented here was addressed in the parties' cross-motions of demand growth and causation, and I have already ruled on the proper legal standard for the demand growth exclusion. As stated above, the demand growth exclusion requires a showing that the unit "could have accommodated" the emissions pre-project *and* that those increases were unrelated to the project. The two prongs are distinct. Satisfying the "could have accommodated" prong is necessary but not sufficient to justify application of the exclusion, and emissions that "could have been accommodated" pre-project are not per se "unrelated." *See supra* Section B. 1. Accordingly, I expect that Ms. Ringelstetter Ennis, as well as all of the parties' proffered experts, will keep their testimony within the confines of the legal standards applicable to this case, including those set out in this Memorandum and Order. If an expert attempts to provide unreliable or misleading testimony, it will be excluded. *See United States v. Wintermute*, 443 F.3d 993, 1001 (8th Cir. 2006) ("[B]y misconstruing the legal question at issue, the testimony was not relevant. If offered, the expert testimony would have served to confuse rather than assist the jury in the jury's attempt to understand the evidence on this issue."); *S. Pine Helicopters, Inc. v. Phoenix Aviation Managers, Inc.*, 320 F.3d 838, 841 (8th Cir. 2003) ("expert testimony on legal matters is not admissible").

Additionally, as stated above, challenges to an expert that really go to credibility and the weight of the evidence rather than to an expert's qualifications will be taken up at trial. EPA will have the opportunity to cross-examine Ms. Ringelstetter Ennis on the factual bases for her opinions at trial. *See Synergetics, Inc. v. Hurst*, 477 F.3d 949, 955-56 (8th Cir. 2007) ("As a general rule, the factual basis of an expert opinion goes to the credibility of the testimony, not the admissibility, and it is up to the opposing party to examine the factual basis for the opinion in

cross-examination.”) (internal citations omitted). And I will be in a better position to evaluate Ms. Ringelstetter Ennis’ reliability and credibility at trial. As a result, EPA’s motion to exclude certain of Ms. Ringelstetter Ennis’ testimony is denied.

Accordingly,

IT IS HEREBY ORDERED that Ameren’s Motion for Partial Summary Judgment No. 6: On the Correct Legal Standard for Routine Maintenance, Repair and Replacement #[557] and EPA’s Motion for Partial Summary Judgment on Ameren’s Routine Maintenance Defense #[504] are both **GRANTED** in part and **DENIED** in part.

IT IS FURTHER ORDERED that EPA’s Motion for Partial Summary Judgment on Ameren’s Demand Growth Defense #[511] and Ameren Missouri’s Motion for Partial Summary Judgment No. 5: Correct Standard for Determining Causation #[552] are both **GRANTED** in part and **DENIED** in part.

IT IS FURTHER ORDERED that Ameren Missouri’s Motion for Partial Summary Judgment No. 2: Concerning NSR Applicability #[543] is **DENIED**.

IT IS FURTHER ORDERED that Ameren Missouri’s Motion for Partial Summary Judgment No. 3: No Evidence Concerning a “Reasonable Power Plant Operator” #[546] is **DENIED**.

IT IS FURTHER ORDERED that EPA’s Motion for Partial Summary Judgment on Defendant’s Violations of the Clean Air Act at Rush Island Unit 2 (Emissions) #[536] is **DENIED**.

IT IS FURTHER ORDERED that Ameren Missouri’s Motion for Partial Summary Judgment No. 4: On EPA’s “Increased Capacity Claim” #[549] is **DENIED**.

IT IS FURTHER ORDERED that Ameren Missouri’s Motion for Partial Summary

Judgment No. 7: Regarding Title V #[561] is **DENIED**.

IT IS FURTHER ORDERED that Ameren Missouri's Motion to Exclude the Expert Opinions and Testimony of David Lloyd #[508] is **DENIED**.

IT IS FURTHER ORDERED that EPA's Motion to Exclude Certain Opinions of Sandra Ringelstetter Ennis #[520] is **DENIED**.



RODNEY W. SIPPEL
UNITED STATES DISTRICT JUDGE

Dated this 24th day of February, 2016.